

A  
CATALOGUE  
OF THE  
UNCULTIVATED  
FERNS AND FERN ALLIES (PTERIDOPHYTA)  
AND THE  
FLOWERING PLANTS (SPERMATOPHYTA)  
OF  
VIGO COUNTY,  
INDIANA.

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BY W. S. BLATCHLEY.

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“ How ineffably vast and how hopelessly infinite is the study of nature !  
If a mere dilettante observer like myself—a saunterer who gathers posies  
and chronicles butterflies by the wayside for the pure love of them—were  
to tell even all that he has noticed in passing of the manners and habits  
of a single weed—of its friends and its enemies, its bidden guests and  
its dreaded foes, its attractions and its defenses, its little life history and  
the wider life history of its race—he would fill a whole book up with  
what he knows about that one little neglected flower ; and yet he would  
have found out after all but a small fraction of all that could be known  
about it, if all were ever knowable.”—*Grant Allen.*

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## INTRODUCTION.

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Many catalogues of the flowering plants of different localities in this and other States have appeared in recent years, each varying much in the nature of the information contained. Some were mere lists of scientific names. Others contained much valuable information regarding the variations, and habitat of the plants recorded. All added more or less to the known geographical distribution of plants.

My reasons for preparing and publishing the present list are several:

*First.*—The botany of any region is closely related to the geology thereof, and no better place could probably be found for the printing of a catalogue of the flora of Vigo County than immediately succeeding the foregoing report and map of the geology of that county prepared by Dr. Scovell.

*Second.*—During a seven years' residence of the county a large number of notes relating to the variation, distribution, and comparative abundance of the flowering plants were collected. As no flora of the county has ever been published, and as the State Normal School is located at Terre Haute, it was thought that a list, with such notes added, might be of aid to future students of botany in that institution.

*Third.*—Many indigenous plants once common in western Indiana are becoming rare or have already disappeared. They could not withstand our modern civilization. In the words of Thoreau: "The Indian stood much nearer to wild nature than we. The noblest quadrupeds, the largest fresh water fish, some of the wildest and noblest birds and the fairest flowers have receded as we advanced, and we have but the most distant knowledge of them."

From the primitive fauna of Vigo County have disappeared the buffalo, bear, wolf, panther, elk, deer, wild turkey, ivory-billed woodpecker, paroquet, wild pigeon, rattlesnake and copperhead, together with the noble red man, the one time contemporary and lord of them all. From its flora will soon be stricken the yellow lady's slipper and showy orchis, the wild orange red and turk's cap lilies, the yellow puccoon and blue cohosh, the ginseng and squill, the nelumbo and white water lily, the black walnut and yellow poplar, all of which were once abundant; while already many flowers which once decked with their brilliant and

varied colors all the prairies on either side of the Wabash River, have wholly disappeared, and, in their stead, we find those coarse, unsightly weeds of civilization—aliens from a foreign shore—which have ever accompanied the white man on his westward march. The native plants, now rare, will soon have wholly disappeared from the flora of the county. That a permanent record of that flora, as it now exists, may be accessible to future generations, is the principle reason for the preparation of the present list.

#### TOPOGRAPHY AND SOILS OF VIGO COUNTY.

The number and variety of the flowering plants of any region are determined very largely by the nature of the topography and the character of the soils, as well as by the latitude, mean annual temperature, etc. The topography of Vigo County is a varied one. The Wabash River flows through its northwestern corner, and in many places its bottoms,

*River* which are usually overflowed each season, are two to four  
*Bottoms.* miles wide. Embraced within the area of these alluvial bottom lands are numerous sloughs and ponds, some of them covering an area of 40 to 80 acres, whose waters are replenished by each annual overflow. Within the waters or about the muddy or sandy margins of these ponds grow many plants rarely found in other portions of the State or not hitherto recorded from within its bounds. Some of the more notable of these are the Upright Bur-head, *Echinodorus cordifolius* (L.); Swamp Horsetail, *Equisetum fluviatile* L.; Water Milfoil, *Myriophyllum verticillatum* L.; Pondweed, *Potamogeton spirillus* Tuckerm.; Catchfly Grass, *Homalocenchrus lenticularis* (Michx.); Columbia Wolffia, *Wolffia columbiana* Karst.; Sandwort, *Arenaria serpyllifolia* L., and Downy Poplar, *Populus heterophylla* L.

Bordering these lowland bottoms on the east side of the river are level river terraces, or prairies varying in width from three to eight miles. In

*River* some places, as near the Five-Mile Pond, north of Terre  
*Terraces or* Haute, these terraces rise higher and more abruptly than  
*Prairies.* elsewhere, and the soil both on the slope and on the level above is very sandy. In such localities certain plants are found which have been recorded elsewhere in the State only from the sand dunes along its northern border. Among such may be mentioned the Diffuse Panicum, *Panicum autumnale* Bosc.; Hair-like Stenophyllus, *Stenophyllus capillaris* (L.); Carolina Whitlow Grass, *Draba caroliniana* Walt.; Frostweed, *Helianthemum canadense* (L.); Whorled Milkweed, *Asclepias verticillata* L., and Houghton's Synthesis, *Wulfenia houghtoniana* (Benth.).

The surface of most of the level river terrace has long since been cultivated, but in the vicinity of Heckland, nine miles north of Terre

Haute, are several small tracts of virgin prairie as yet untouched by the plow. The soil of some of these is low and wet; of others, high, dry and sandy. This region, when carefully examined, proves to be a veritable botanist's paradise. Here has been found a large percentage of the plants worthy of especial mention in this report. Of these, the Canadian Burnet, *Sanguisorba canadensis* L.; the Goldenrods, *Solidago speciosa* Nutt., *S. rigidiuscula* (T. & G.), and *S. odora* Ait.; the Greenish Orchis, *Habenaria flava* (L.); the Larger Yellow Lady's Slipper, *Cypripedium hirsutum* Mill.; the Rose Mallow, *Hibiscus lasiocarpus* Cav.; the Lance-leaved Violet, *Viola lanceolata* L., and the Soapwort Gentian, *Gentiana saponaria* L., are the most notable. This locality furnishes, also, the only stations in the county where representatives of that typical prairie flora, once so prominent in the western third of our State, can yet be found; and here, in their respective seasons, the Bluets, *Houstonia cerulea* L.; Scarlet Painted Cups, *Castilleja coccinea* L.; Blazing Stars, *Lacinaria scariosa* Willd., and *L. pycnostachya* Michx.; False Indigo, *Baptisia leucantha*, T. & G., and Queen of the Prairie, *Spiraea lobata* Gronov., flourish in beauty and profusion.

On the east side of the river terraces are the uplands, usually more or less broken or hilly, which extend to the eastern confines of the county and are underlaid with coal. The ravines and hillsides in the vicinity of Grant—Ferrell's woods in section 6, Riley Township, and Hipple's Coal-mine woods in section 1, Linton Township—are localities of the eastern uplands of especial interest, each with a number of characteristic species not noted elsewhere in the county.

On the western side of the river the uplands approach the river bottoms closely, a narrow terrace only intervening. Here also coal underlies the surface, and in many places along the smaller streams high, dry, wooded hills are found. The most interesting of these, botanically, are along the south side of Coal Creek in sections 19 and 24, Fayette Township. Here is the home of such noteworthy species as the Five-flowered Gentian, *Gentiana quinquefolia* L.; the Virginia Obolaria, *Obolaria virginica* L.; the Bracted Orchis, *Habenaria bracteata* (Willd.); the Rattlesnake Plantain, *Peramium pubescens* (Willd.), and the Canada Waterleaf, *Hydrophyllum canadense* L., besides many others noted in the list.

Along the sandy banks of the old Wabash and Erie canal, and the gravelly banks of the railways, especially the Vandalia, between Terre Haute and Glen,\* many a rare species grows and blossoms, unnoticed save by the insects, which visit it for nectar, and the wandering naturalist, ever on the lookout for the interesting and the beautiful among the

\*By a mistake, the station of Glen was wrongly located on Dr. Scovell's map of Vigo County. It should be at the crossing of the Vandalia Railroad and National Road, near the center of Section 16, Lost Creek Township.

common and the dross. Many of the plants along the canal are without doubt the descendants of species introduced two score years and more ago when busy commerce reigned supreme up and down this artificial road of water.

Thus we note that the extensive river bottoms, the sandy ridges, the prairies damp and dry, the ponds and sloughs, and the uplands with their ravines and wooded hills furnish a variety of topography and soils suitable to the existence and growth of many kinds of plants. Indeed, it may be said that every character of topography occurring in Indiana is represented in Vigo County, with but one exception, namely, the rocky hills characteristic of Brown and eastern Monroe counties, and other portions of southern Indiana. On account of the absence of such hills a number of plants, whose general range includes the entire State, do not occur in the county. Among the more notable of these are many species of the family *Ericaceæ*, as limited in Gray's Manual, which is represented only by two parasitic species belonging to the genus *Monotropa*. Others are the Indian Cucumber Root, *Medeola virginiana* L.; the Common Dittany, *Cunila mariana* L.; the Fragrant Sumach, *Rhus aromatica* Ait.; the Choke Cherry, *Prunus virginiana* L., and the Small Honeysuckle, *Lonicera dioica* L., besides a number of species of ferns.

#### PLANTS OF SOUTHERN RANGE.

One interesting characteristic of the flora of Vigo County is the presence of a large number of plants whose true range lies much farther south. Their occurrence as far north as central Indiana can only be accounted for by the broad and sheltering valley of the Wabash, within the confines of which they find a climate and a soil congenial to their wants. The following list comprises twenty-five of the most notable of these southern forms:

- Pitcher's Clematis, *Clematis pitcheri* T. & G.
- Pond Cress, *Nasturtium sessiliflorum* Nutt.
- Densely-flowered St. John's Wort, *Hypericum densiflorum* Pursh.
- Rose Mallow, *Hibiscus lasiocarpus* Cav.
- , *Psoralea melilotoides* Michx.
- Sedum, *Sedum telephioides* Michx.
- Sweet Gum, *Liquidambar styraciflua* L.
- Ammannia, *Ammannia coccinea* Rottb.
- Sinuate-leaved Primrose, *Oenothera sinuata* L.
- Northern Passion Flower, *Passiflora lutea* L.
- Purplish Cudweed, *Gnaphalium purpureum* L.
- , *Hymenopappus seabæosæus* L'Her.
- Butterweed, *Senecio lobatus* Pers.
- Persimmon, *Diospyros virginiana* L.

Obtuse-leaved Milkweed, *Asclepias obtusifolia* Michx.  
 Climbing Milkweed, *Enslenia albida* Nutt.  
 Trumpet Creeper, *Tecoma radicans* Juss.  
 Blue Curls, *Trichostema dichotomum* L.  
 Large-flowered Mint, *Synandra grandiflora* Nutt.  
 ———, *Phyllanthus carolinensis* Walt.  
 Pecan-nut, *Carya olivæformis* Nutt.  
 Downy Poplar, *Populus heterophylla* L.  
 Glaucous-leaved Green-brier, *Smilax glauca* Walt.  
 Upright Bur-head, *Echinodorus rostratus* Engelm.  
 Kyllingia, *Kyllingia pumila* Michx.

Many others might be mentioned whose range for the most part lies far to the southward, but the above are sufficient to show that in Vigo County is found a northern extension of true southern forms, a locality where a northern and a southern flora overlap and merge.

## DATE OF FLOWERING OF EARLY SPRING PLANTS.

The following is a record of the dates of flowering of seventy species of plants in Vigo County during the months of February, March and April for the years 1889, 1890, and 1891. The dates given are those upon which the first flowers of each species were noted by the writer in the years mentioned. In a number of instances the plants had been in blossom for several days before the notes were taken. It will be seen that the dates for 1889 and '90 were nearly the same, while those for 1891 were in most instances from ten days to two weeks later. From this table may be gained a fair idea of the variableness of the spring season in Vigo County.

	1889.	1890.	1891.
<i>Acer rubrum</i> L., Red Maple .....	Mar. 10.	Feb. 16.	Feb. 21.
<i>Acer saccharinum</i> L., Soft or White Maple .....	Mar. 13.	Feb. 16.	?
<i>Draba caroliniana</i> Walt., Whitlow Grass .....	Mar. 14.	Mar. 21.	Mar. 30.
<i>Cardamine douglassii</i> (Torr.), Purple Cardamine ..	Mar. 23.	Feb. 9.	Mar. 18.
<i>Bursa bursa-pastoris</i> (L.), Shepherd's Purse .....	Mar. 10.	Apr. 5.	Apr. 12.
<i>Eriogenia bulbosa</i> (Michx.), Turkey Pea .....	Mar. 16.	Mar. 22.	Mar. 18.
<i>Corylus americana</i> (Walt.), Hazlenut .....	Mar. 16.	?	Apr. 1.
<i>Hepatica acuta</i> (Pursh.), Liverwort .....	Mar. 17.	Mar. 21.	Apr. 1.
<i>Sanguinaria canadensis</i> L., Bloodroot .....	Mar. 17.	Mar. 26.	Apr. 7.
<i>Viola tenella</i> Muhl., Wild Pansy .....	Mar. 17.	Apr. 27.	Apr. 16.
<i>Ranunculus abortivus</i> L., Small-flowered Crowfoot ..	Mar. 17.	Apr. 5.	Apr. 16.
<i>Dentaria laciniata</i> Muhl., Toothwort .....	Mar. 23.	Mar. 22.	Apr. 12.
<i>Claytonia virginica</i> L., Spring Beauty .....	Mar. 23.	Mar. 22.	Mar. 29.
<i>Caltha palustris</i> L., Marsh Marigold .....	Apr. 6.	Mar. 26.	Apr. 7.
<i>Mertensia virginica</i> (L.), Bluebells .....	Apr. 1.	Apr. 5.	Apr. 16.
<i>Viola obliqua</i> Hill, Common Blue Violet .....	Apr. 6.	Apr. 5.	Apr. 14.

	1889.	1890.	1891.
<i>Phlox divaricata</i> L., Sweet William.....	Apr. 6.	Apr. 5.	Apr. 18.
<i>Erythronium americanum</i> Ker., Yellow Adder's Tongue .....	Apr. 6.	Apr. 5.	Apr. 12.
<i>Isopyrum biternatum</i> (Raf.), False Rue-anemone....	Apr. 2.	Apr. 5.	Apr. 12.
<i>Phlox bifida</i> Beck, Dwarf Phlox .....	Apr. 7.	Apr. 13.	Apr. 17.
<i>Bicuculla cucullaria</i> L., Dutchman's Breeches .....	Apr. 10.	Apr. 5.	Apr. 12.
<i>Trillium sessile</i> L., Sessile Trillium.....	Apr. 10.	Apr. 8.	Apr. 18.
<i>Trillium recurvatum</i> Beck, Purple Trillium .....	Apr. 10.	Apr. 10.	Apr. 18.
<i>Alsine pubera</i> (Michx.), Great Chickweed.....	Apr. 13.	Apr. 5.	Apr. 18.
<i>Taraxacum taraxacum</i> (L.), Dandelion .....	Apr. 13.	Apr. 5.	Apr. 18.
<i>Viola pubescens</i> Ait., Downy Yellow Violet.....	Apr. 13.	Apr. 13.	Apr. 18.
<i>Viola striata</i> Ait., Pale Violet .....	Apr. 13.	Apr. 13.	Apr. 18.
<i>Cercis canadensis</i> L., Red Bud.....	Apr. 13.	Apr. 20.	Apr. 19.
<i>Ribes gracile</i> Michx., Missouri Gooseberry .....	Apr. 13.	Apr. 8.	Apr. 16.
<i>Capnoides flavulum</i> (Raf.), Yellow Corydalis.....	Apr. 13.	Apr. 13.	Apr. 17.
<i>Delphinium tricornis</i> Michx., Dwarf Blue Larkspur.	Apr. 13.	Apr. 13.	Apr. 21.
<i>Bicuculla canadensis</i> (Goldie.), Squirrel Corn.....	Apr. 13.	Apr. 5.	?
<i>Erythronium albidum</i> Nutt., White Adder's Tongue.	Apr. 13.	Apr. 8.	?
<i>Collinsia verna</i> Nutt., Innocence.....	Apr. 13.	Apr. 13.	Apr. 26.
<i>Senecio obovatum</i> Muhl., Ragwort .....	Apr. 17.	Apr. 13.	Apr. 23.
<i>Syndesmon thalictroides</i> (L.), Rue-anemone .....	Apr. 17.	Apr. 5.	Apr. 28.
<i>Benzoin benzoin</i> (L.), Spice-bush.....	Apr. 10.	Apr. 5.	Apr. 12.
<i>Ranunculus septentrionalis</i> Poir., Creeping Buttercup	Apr. 13.	Apr. 13.	Apr. 19.
<i>Polemonium reptans</i> L., Greek Valerian.....	Apr. 13.	Apr. 13.	Apr. 19.
<i>Glechoma hederacea</i> L., Ground Ivy.....	?	Apr. 13.	Apr. 17.
<i>Stylophorum diphyllum</i> (Michx.), Yellow Celandine			
Poppy .....	Apr. 17.	Apr. 19.	Apr. 25.
<i>Sassafras sassafras</i> (L.), Sassafras. ....	Apr. 20.	Apr. 13.	Apr. 25.
<i>Geranium maculatum</i> L., Wild Cranesbill .....	Apr. 20.	Apr. 27.	?
<i>Senecio aureus</i> L., Golden Ragwort.....	Apr. 20.	Apr. 27.	?
<i>Ribes cynosbati</i> L., Prickly Wild Gooseberry .....	Apr. 20.	Apr. 13.	Apr. 21.
<i>Pyrus malus</i> L., Wild Apple.....	?	Apr. 20.	Apr. 28.
<i>Erigeron philadelphicus</i> L., Common Fleabane .....	Apr. 20.	Apr. 27.	May 6.
<i>Acer negundo</i> L., Box Elder .....	Apr. 20.	Apr. 20.	Apr. 16.
<i>Descurainia pinnata</i> (Walt.), Tansy Mustard .....	Apr. 20.	Apr. 20.	Apr. 19.
<i>Geum vernum</i> (Raf.), Spring Avens .....	Apr. 20.	Apr. 27.	?
<i>Mitella diphylla</i> L., Bishop's Cap.....	Apr. 21.	Apr. 21.	Apr. 25.
<i>Prunus americana</i> Marsh., Wild Plum.....	Apr. 21.	?	Apr. 21.
<i>Veronica arvensis</i> L., Corn Speedwell .....	Apr. 21.	Apr. 13.	Apr. 28.
<i>Cardamine hirsuta</i> L., Small Bitter Cress.....	Apr. 21.	Apr. 13.	Apr. 19.
<i>Cerastium longipedunculatum</i> Muhl., Nodding Chick- weed .....	Apr. 21.	Apr. 20.	Apr. 18.
<i>Asimina triloba</i> (L.), Papaw .....	?	Apr. 29.	Apr. 25.
<i>Craetagus mollis</i> (T. & G.), Red Haw .....	Apr. 23.	Apr. 30.	?
<i>Aesculus glabra</i> Willd., Buckeye.....	Apr. 20.	Apr. 29.	?
<i>Phacelia purshii</i> Buckl., Phacelia .....	Apr. 28.	May 3.	May 3.
<i>Pedicularis canadensis</i> L., Lousewort.....	Apr. 28.	?	Apr. 28.
<i>Caulophyllum thalictroides</i> (L.), Blue Cohosh.....	Apr. 28.	Apr. 19.	?
<i>Sisyrinchium bermudiana</i> L., Blue-eyed Grass.....	Apr. 27.	May 3.	Apr. 28.
<i>Hicoria ovata</i> (Mill.), Shellbark Hickory.....	Apr. 30.	?	May 3.
<i>Cornus florida</i> L., Flowering Dogwood.....	Apr. 28.	May 3.	Apr. 28.
<i>Podophyllum peltatum</i> L., May Apple.....	?	Apr. 27.	May 3.
<i>Orchis spectabilis</i> L., Showy Orchis .....	Apr. 28.	?	May 3.
<i>Fragaria vesca</i> L., Wild Strawberry .....	?	Apr. 27.	Apr. 28.
<i>Ranunculus recurvatus</i> Poir., Hooked Crowfoot .....	Apr. 28.	Apr. 27.	May 3.
<i>Rumex acetosella</i> L., Field Sorrel .....	?	Apr. 29.	May 6.
<i>Trifolium repens</i> L., White Clover.....	Apr. 30.	May 3.	May 17.



## PARASITIC PLANTS.

The list of flowering plants devoid of leaves and true roots, and deriving their nourishment from other vegetation, is a large one in proportion to the number of species in the county. Belonging to it we find the Corpse Plant, *Monotropa uniflora* L., and the Pine-sap, *Hypopitys hypopitys* (L.), pale, delicate forms, which rear their slender stems from masses of decaying vegetation about the roots of other plants in high, dry woodlands; the Beech-drops, *Epiphegus virginiana* (L.), and the Squaw-root, *Conopholis americana* (L.), the former common on the roots of beech trees, the latter scarce among fallen leaves in rich, open woods; the Broomrape, *Orobancha ludoviciana* Nutt., and its near relative, the One-flowered Cancer-root, *Thalesia uniflora* (L.), both rare, the former parasitic on the roots of the great horse-weed, and the latter growing in damp, decaying vegetable mold, and finally the two Dodders, *Cuscuta gronovii* Willd., and *C. polygonorum* Engelm., both common in low, alluvial soil, where they twine their yellow stems about the stalks of asters, wild sunflowers and the greater ragweed, and derive therefrom the nourishment for their existence.

## VIGO COUNTY PLANTS NEW TO THE STATE LIST.

Among the plants occurring in Vigo County are thirty-three species which have not before been recorded as growing in Indiana. Of a number of them the range, as given in Gray's Manual, is "Illinois and westward." Of the others the general range, for the most part, includes Indiana, though as yet no one has heretofore happened upon them within the State.

The list of them is as follows:

1. *Potamogeton diversifolius* Raf., Rafinesque's Pondweed.
2. *Potamogeton spirillus* Tuckerm., Spiral Pondweed.
3. *Zannichellia palustris* L., Horned Pondweed.
4. *Echinodorus cordifolius* (L.) Griseb., Upright Bur-head.
5. *Panicum minus* Muhl., Wood Panicum.
6. *Panicum pubescens* Lam., Hairy Panicum.
7. *Homalocenchrus lenticularis* (Michx.) Scribn., Catch-fly Grass.
8. *Sporobolus asper* (Michx.) Kunth., Rough Rush Grass.
9. *Agrostis intermedia* Scribn., Upland Bent Grass.
10. *Polygonum ramosissimum* Michx., Bushy Knotweed.
11. *Chenopodium boscianum* Moq., Bosc's Goosefoot.
12. *Anemone caroliniana* Walt., Carolina Anemone.
13. *Ranunculus purshii* Richards, Pursh's Yellow Water Crowfoot.
14. *Lepidium intermedium* A. Gray, Peppergrass.

15. *Geum macrophyllum* Willd., Round-leaved Avens.
16. *Sanguisorba canadensis* L., Canadian Burnet.
17. *Lespedeza angustifolia* (Pursh.) Ell., Narrow-leaved Bush Clover.
18. *Falcata pitcheri* (T. & G.) Kuntze, Large-leaved Hog Peanut.
19. *Euphorbia heterophylla* L., Diverse-leaved Spurge.
20. *Hypericum densiflorum* Pursh., Dense-flowered St. John's Wort.
21. *Oenothera sinuata* L., Sinuate-leaved Evening Primrose.
22. *Myriophyllum verticillatum* L., Water Milfoil.
23. *Macrocalyx nyctelea* (L.) Kuntze, Ellis' Waterleaf.
24. *Trichostema dichotomum* L., Blue Curls.
25. *Orobanche ludoviciana* Nutt., Broom Rape.
26. *Plantago aristata* Michx., Awned Plantain.
27. *Chrysopsis villosa* (Pursh.) Nutt., Golden Aster.
28. *Solidago rigidiuscula* (T. & G.) Porter, Goldenrod.
29. *Solidago speciosa* Nutt., Handsome Goldenrod.
30. *Aster drummondi* Lindl., Drummond's Aster.
31. *Ambrosia bidentata* Michx., Two-toothed Ragweed.
32. *Hymenopappus caroliniensis* (Lam.) Porter, Carolina Hymenopappus.
33. *Senecio lobatus* Pers., Butterweed.

## WEEDS OF VIGO COUNTY.

What is a weed? How does it differ from a wild flower? These questions are often asked by persons who are beginning the study of botany, and pupils have been known to put aside a specimen with a look of disgust, saying that they "did not want to study that nasty weed."

There is, of course, no difference, botanically speaking, between a weed and a wild flower, save that of comparative abundance. Some of our most common weeds are among the most handsome of our wild flowers, for example, the iron-weed, thistle and ox-eye daisy. They well illustrate the truth of that old saying, that "Familiarity breeds contempt," for we have become so familiar with their appearance that we daily pass them by unnoticed. Were they as rare as the showy orchis and wild columbine they would no longer be called "weeds," but "wild flowers," and would, perhaps, be cultivated for ornament, just as among half the collections of house plants in Vigo County are found species of cacti, which are by no means rarities to the natives of Texas and New Mexico.

Defining a weed as a useless plant, growing wild in cultivated grounds, pastures and meadows, of sufficient size to be easily noticeable and of sufficient abundance to be injurious to the farmer, we find eighty-two species occurring in Vigo County.

A few years ago the writer published in the *Indiana Farmer*\* a list of what he then considered the twenty worst weeds growing in western Indiana, together with information concerning the many ways in which weeds are distributed from one section of country to another. That list, with the species named in the order of their injuriousness, together with the original home of each, was as follows:

1. *Ambrosia artemisiifolia* L., Ragweed, United States.
2. *Setaria glauca* Beauv., Foxtail, Europe.
3. *Ambrosia trifida* L., Great Ragweed, United States.
4. *Vernonia fasciculata* Michx., Ironweed, United States.
5. *Amarantus retroflexus* L., Pigweed, Tropical America.
6. *Erigeron canadense* L., Horseweed, United States.
7. *Convolvulus sepium* L., Bracted Bindweed, United States.
8. *Xanthium canadense* Mill., Cocklebur, United States.
9. *Erigeron annuus* L., Whitetop, United States.
10. *Chenopodium album* L., Lamb's Quarters, Europe.
11. *Cnicus lanceolatus* Hoffm., Common Thistle, Europe.
12. *Portulaca oleracea* L., Purslane, Europe.
13. *Cenchrus tribuloides* L., Bur-grass, United States.
14. *Bidens frondosa* L., Beggar's Ticks, United States.
15. *Panicum sanguinale* L., Crab-grass, Europe.
16. *Datura stramonium* L., Jimson Weed, Asia.
17. *Polygonum persicaria* L., Smartweed, Europe.
18. *Datura tatula* L., Purple Jimson, Tropical America.
19. *Arctium lappa* L., Burdock, Europe.
20. *Solidago canadensis* L., Golden rod, United States.

Seven years' additional study of the flora has changed but little the writer's opinion concerning this list. It would be more correct, perhaps, to place the ironweed (No. 4) before the great ragweed (No. 3) and to drop the bracted bindweed (No. 7) from the list, replacing it with the prickly lettuce (*Lactuca scariola* L.), another European alien, which in recent years has spread throughout the county with great rapidity. The field sorrel (*Rumex acetosella* L.), also of European origin, is probably more troublesome than the burdock (No. 19), and the corn cockle (*Lycnis githago* L.), also from Europe, will, as a weed, probably outrank the golden-rod (No. 20).

These changes made, the list would contain eight plants native to our country and twelve introduced from foreign shores.

As Grant Allen has well said, "the American soil seems to suit exactly those weeds which are the offscourings and refuse of civilization in all countries. In civilized, cultivated and inhabited New England, and as far inland, at least, as the Mississippi, the prevailing vegetation is the

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\* March 8, 1890.

vegetation of Central Europe, and that at its weediest. The daisy, the primrose, the cowslip and the daffodil have stayed at home; the weeds have gone to colonize the New World. For thistles and burdock, dog fennel and dead nettle, hound's tongue and stick-seed, catnip and dandelion, ox-eye daisy and cocklebur, America easily licks all creation. All the dusty, noisome and malodorous pests of all the world seem there to revel in one grand, congenial, democratic orgy."

"What is the best method of ridding ourselves of these foreign weeds?" is the question we hear asked by the practical farmer. In the writer's opinion, there is no method. They are here, and here to stay. The farmers of the future must wage an eternal warfare against them, for they have secured a foothold which can not be overcome. There was a time when but one, two, or a dozen plants of each species existed in the State. Then was the time to have successfully quarantined that species by destroying those pioneers. The few persons on whose lands they appeared neglected them, and every gardener, every farmer, yea, every land-owner in the State, must henceforth, now and forever, pay the penalty of that neglect by continued hoeing, plowing and mowing to keep these weeds in subjugation. As long as the rudiments of botany are not taught in the common schools of this State the average farmer will be unable to tell whether a new plant that makes its appearance upon his land should be allowed to grow or not; indeed, in many instances, he will not know that a new plant is there until it becomes too abundant to be overcome. Put a high school into each township in the State; teach the elements of botany therein, and then, and not till then, may we hope that the farmers of the future will be on the lookout for all new plants; will be able at once to judge their relative injuriousness, and will destroy, before they have time to ripen their seeds, those species which, if allowed to spread, will become a curse to the State.

#### NOMENCLATURE.

The nomenclature and arrangement of the present list is that of the new "*List of Pteridophyta and Spermatophyta growing without cultivation in Northeastern North America*," prepared by a Committee of the Botanical Club of the American Association for the Advancement of Science, and published in 1894 as the fifth volume of the *Memoirs of the Torrey Botanical Club*.

This check-list is based on the belief that "the order of nature is an order of evolution and development from the more simple to the more complex." It, therefore, begins with the lowest forms of the plants included, the ferns, and ends with the highest, the members of the family Compositæ. Moreover, the law of priority has been strictly followed, and the first describer of a species is given the credit therefor

instead of the person who first placed it in the genus now adopted, as has been the custom in Gray's Manual and other recent botanical works.

This list is now the recognized standard among botanists in the United States, and has been followed by Britton and Brown in their new "Illustrated Flora," now being issued. In the present catalogue of Vigo County plants the only deviation from the new check-list is that of beginning each specific name with a small letter, whatever its origin, that being the rule in zoölogical literature, and, in the writer's opinion, the proper one to pursue. Where the name adopted in the new check-list differs from that in Gray's Manual, sixth edition, the one used in the latter work is placed in parenthesis as a synonym in the first line following the common name of the plant. The number in parenthesis is the number of the plant in the check-list.

The present list is based upon the collections made by myself during my seven years' residence in Vigo County. All species included, except a few of the more common ones, like the dandelion and mullein, are represented by specimens, either in the herbarium of DePauw University, which, in 1893, came into possession of several hundred Vigo County plants collected by me, or by specimens in my private herbarium. Species represented in the DePauw herbarium are preceded by an asterisk (\*). The date given is the earliest of those recorded in my notes, or those of Dr. Evermann, for the blooming of the plant in question. If the season is a forward one specimens of the plant will doubtless be found in flower at the date given; if backward, the blooming will be from a week to two weeks later.

I am under obligations to Dr. B. W. Evermann, formerly professor of botany in the State Normal School, for the use of notes pertaining to the locality and date of flowering of a number of the species; to Dr. L. M. Underwood, of Columbia University, New York, for suggestions regarding the nomenclature adopted, and to Dr. J. T. Scovell and O. F. Fidler, of Terre Haute, for aid in collecting certain species in the fall of 1896. Messrs. J. M. and Stanley Coulter have also verified a number of species for me, and to them my thanks are due for the service rendered.

## CATALOGUE.

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### PTERIDOPHYTA.

"In the entire vegetable world there are probably no forms of growth that attract more general notice than the ferns. Delicate in foliage, they are sought for cultivation in conservatories and Wardian cases, and when dried and pressed add to the culture of many a domestic circle by serving as household decorations. They furnish to botanists a broad and inviting field for investigation, and he who examines their more minute structure with the microscope will find deeper and still more mysterious relations than those revealed to the unaided eye. Ferns thus appeal to the scientific element of man's nature as well as to the æsthetic, and while they highly gratify the taste, they furnish food for the intellect in a like degree."—*Underwood*.\*

#### OPHIOGLOSSACEÆ. Adder's Tongue Family.

##### 1. BOTRYCHIUM Sw. Schrad.

1. (6) *B. TERNATUM* (Thunb.) Sw. Schrad. Ternate Grape Fern.  
Upland shaded banks in rich soil; rare.  
Southwest of Ferrell's woods; September 20, 1889.

The form taken was the one usually known as var. *obliquum* Milde—a foot high, with the fruiting portion more compound, and the sterile segment with the divisions oblong and oblique at the base.

2. (7.) *B. VIRGINIANUM* (L.) Sw. Schrad. Virginia Grape Fern.  
Rich open woods; frequent. May 9.

#### FILICES. Fern Family.

##### 2. ADIANTUM L.

3. (12.) *A. PEDATUM* L. Maiden-hair Fern.  
Moist hillside thickets and woods; frequent. July 6.

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\*Our Native Ferns and Their Allies. (Introduction.)

## 3. PTERIS L.

4. (13.) *P. AQUILINA* L. Common Brake. Eagle Fern.  
Frequent at Heckland in sandy soil, along fence rows and borders  
of raw prairie. Not noted elsewhere. June 8.

## 4. ASPLENIUM L.

- 5.\* (26.) *A. ANGUSTIFOLIUM* Michx. Narrow-leaved Spleenwort.  
Sides of ravines; frequent. July 10.
- 6.\* (34.) *A. PLATYNEURON* (L.) Oakes. Ebony Spleenwort.  
(*A. ebenum* Ait.)  
Sides of ravines and damp wooded slopes; scarce.  
Honey Creek. Coal Creek. June 30.

## 5. PHEGopteris Fee.

7. (42.) *P. HEXAGONOPTERA* (Michx.) Fee. Beech Fern.  
Wooded hillsides, in moist, rich soil; scarce.  
Coal Creek hills. July 2.

## 6. DRYopteris Adans.

(*Aspidium* Sw. Schrad.)

8. (44.) *D. ACROSTICHOIDES* (Michx.) Kuntze. Christmas Fern.  
(*A. acrostichoides* Swartz.)  
Sides of ravines in rich soil; common.  
Specimens with fruit can be gathered any month in the year.
9. (53.) *D. MARGINALIS* (L.) A. Gray. Evergreen Wood-fern.  
(*A. marginale* Swartz.)  
Sides of ravines; scarce. Coal Creek. (Evermann.)
- 10.\* (57.) *D. SPINULOSA INTERMEDIA* (Muhl.) Underw.  
(*A. spinulosum intermedium*\* D. C. Eaton.)  
Moist, dense woods; scarce. Ferrell's. Heckland. July 14.
11. (58.) *D. THELYPTERIS* (L.) A. Gray. Marsh Shield Fern.  
(*A. thelypteris* Swartz.)  
Low wet meadows and prairies; common. July 30.

## 7. CYSTopteris Bernhadi.

12. (59.) *C. BULBIFERA* (L.) Bernh. Bladder Fern.  
Rocky ravines; scarce. (Evermann.)  
A curious species; the long, tapering fronds with numerous small  
bulbs along the under side of rachis.
- 13.\* (60.) *C. FRAGILIS* (L.) Bernh. Bottle Cystopteris. Bladder Fern.  
Rich wooded slopes; scarce. North Sand Hill. June 1.

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\* See Proc. Ind. Acad. Sci., 1893, 256.

## 8. ONOCLEA L.

14. (62.) O. SENSIBILIS L. Sensitive Fern.  
Dense, moist woods; frequent. May 28.

## 9. OSMUNDA L.

15. (74) O. CINNAMOMEA L. Cinnamon Fern.  
Low, wet prairie swamps; scarce. May 28.  
Heckland.
16. (75.) O. CLAYTONIANA L. Interrupted Fern.  
Swamps and shaded banks; scarce. May 20.  
Ferrell's. Old canal below Spring Hill.
17. (76.) O. REGALIS L. Flowering Fern.  
Low wet woods and marshes; scarce.  
Heckland. Ferrell's. May 13.

## EQUISETACEÆ. Horse-tail Family.

## 10. EQUISETUM L.

18. (81.) E. ARVENSE L. Common Horse-tail.  
Moist, gravelly banks; frequent. April 14.
- 19.\* (82.) E. FLUVIATILE L. Swamp Horse-tail.  
(*E. limosum* L.)  
Margins of ponds in shallow water. Noted only at Goose Pond,  
where it is very common. May 3.
20. (83.) E. HYEMALE L. Scouring Rush. Shave Grass.  
Wet, sandy banks; frequent along the railways and canals. May 5.

## SPERMATOPHYTA.

## GYMNOSPERMÆ.

## CONIFERÆ. Pine Family.

## 11. JUNIPERUS L.

21. (140.) J. COMMUNIS L. Common Juniper.  
Dry or sandy hillsides; scarce.  
Hipple's Coal-mine woods. Sand Hill. May 25.
22. (143.) J. VIRGINIANA L. Red Cedar.  
Old fields and roadsides; frequent.  
A shrub in Vigo County. April 20.



## MONOCOTYLEDONES.

## TYPHACEÆ. Cat-tail Family.

## 12. TYPHA L.

23. (146.) *T. LATIFOLIA* L. Common Cat-tail. Reed Mace. Flag. Marshes and large ditches; frequent. May 24.

## SPARGANIACEÆ. Bur-reed Family.

## 13. SPARGANIUM L.

24. (149.) *S. EURYCARPUM* Engelm. Bur-reed. Swamps and borders of ponds; scarce. June 14. Heckland. Goose Pond.

## NAIADACEÆ. Pond-weed Family.

## 14. POTAMOGETON\* L.

- 25 \* (159.) *P. DIVERSIFOLIUS* Raf. Rafinesque's Pondweed.

(*P. hybridus* Michx.)

Pond south of fair ground; frequent locally. October 3, 1889.  
The first record for the State.

26. (162.) *P. FOLIOSUS* Raf. Leafy Pondweed.

(*P. pauciflorus* Pursh.)

Shallow ponds and ditches; frequent. June 10.

27. (180.) *P. NATANS* L. Floating Pondweed.

Ditches and ponds; frequent. June 25.

- 28.\* (196.) *P. SPIRILLUS* Tuckerm. Spiral Pondweed.

Five-Mile Pond; scarce. July 19.

The first record for the State.

## 15. ZANNICHELLIA L.

29. (202.) *Z. PALUSTRIS* L. Horned Pondweed.

This species grew in abundance in the pond south of the blast furnace, at Terre Haute, in the years 1889-'93. The surface of this pond seldom froze in winter on account of the warm stream of water from the furnace flowing into it. Since the furnace shut down the pond has dried up, and the plant has disappeared.

The first record for the State.

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\*The members of this genus have not been thoroughly collected, and a number of additional forms will doubtless be found in the ponds and streams.

## ALISMACEÆ. Water-Plantain Family.

## 16. ALISMA L.

30. (212.) A. PLANTAGO-AQUATICA L. Water-Plantain.

(A. plantago L.)

Ditches and borders of ponds; common. July 3.

## 17. ECHINODORUS Engelm.

- 31.\* (214.) E. CORDIFOLIUS (L.) Griseb. Upright Bur-head.

(E. rostratus Engelm.)

Noted only about the borders of Conover's Pond. In 1889 it grew very abundantly on the mud flats on south side of pond; less frequent since.

The first record for the State.

## 18. SAGITTARIA L.

32. (223.) S. LATIFOLIA Wild. Broad-leaved Arrow-head.

(S. variabilis Engelm.)

Ponds, ditches and slow flowing streams; common.

Exceedingly variable in size and shape of leaf. June 10.

- 33.\* (227.) S. RIGIDA Pursh. Sessile-fruited Arrow-head.

(S. heterophylla Pursh.)

Borders of ponds; frequent. May 22.

"Specimens differ greatly in size and form of leaf, the difference depending largely on the habitat of the plant. When growing in deep pools or running streams the petioles become thick, rigid and elongated, with long, narrowly lanceolate, spongy blades, or the tapering attenuate phyllodia are leafless. This is the *S. heterophylla rigida* of Gray's Manual, 6th ed."\* This form occurs sparingly in Vigo County, having been taken at the Goose Pond, June 22, 1890.

## HYDROCHARITACEÆ. Frogs-bit Family.

## 19. UDORA Nutt.

(Elodea Michx.)

34. (231.) U. CANADENSIS (Michx.) Nutt. Waterweed. Ditch Moss.

(Elodea canadensis Michx.)

Abundant in Five-Mile and Goose Ponds. May 28.

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\* Jared G. Smith, Sixth Ann. Rep. Mo. Bot. Garden, 1895, 45.

## 20. VALLISNERIA L.

35. (232.) V. SPIRALIS L. Tape Grass. Eel Grass.  
Ponds; scarce.  
Pond north side of Van. railway near Beach's. South Sand Hill.

## GRAMINEÆ. Grass Family.

## 21. ANDROPOGON L.

(Includes *Chrysopogon* Trin.)

- 36.\* (246.) A. NUTANS AVENACEUS (Michx.) Hack. Indian Grass.  
Wood Grass.  
(*C. nutans* Benth.)  
Sandy waste places and hillsides; frequent.  
Varies in height from three to ten feet. Aug. 5.
37. (247.) A. PROVINCIALIS Lam. Beard-grass. Forked Spike.  
(*A. furcatus* Muhl.)  
Dry, sandy banks and hillsides; common. August 2.
38. (250.) A. SCOPARIUS Michx. Broom Beard-grass.  
With the preceding; common. July 28.  
The culms of each of the last two, 10 to 25 in number, spring from dense clumps of root leaves.
39. (251.) A. VIRGINICUS L. Virginia Beard-grass.  
Sandy and gravelly banks; scarce.  
Gravel pit near Van. railway. September 6, 1887.

## 22. PASPALUM L.

- 40.\* (261.) P. SETACEUM Michx. Slender Paspalum.  
Sandy waste places; common. August 17.
- 40a.\* (261a.) P. CILIATIFOLIUM Michx. Ciliate-leaved Paspalum.  
With the above, but less common. August 10.

## 23. PANICUM L.

41. (266.) P. AUTUMNALE Bosc. Diffuse Panicum.  
Sandy hillsides and banks along railways; frequent. Common on the hillside at Five-mile Pond, where it grows in dense tufts. August 10.  
The flowers of this grass are, when in their prime, a grayish-purple in color, and, when wet with dew, reflect the morning sunlight in a peculiar and pleasing manner.  
Recorded before in Indiana only from Lake County.

42. (267.) *P. CAPILLARE* L. Old Witch Grass.

Sandy banks and borders of fields; common. August 12.

This species is a common tumble-weed, and oftentimes in late autumn fence corners are filled to a depth of several feet with the broken stems which have been driven long distances before the wind.

- 42a. (268.) *P. MINUS* Muhl. Wood Panicum.

A specimen, so named for me by Mr. Geo. V. Nash, of Columbia University, was taken from a dry hillside in Hipple's Coal-mine woods, where it is frequent.

Not before recorded from Indiana.

- 43.\* (271.) *P. CLANDESTINUM* L. Hispid Panicum.

Banks of railways and low rich woods; frequent. June 28.

- 44.\* (274.) *P. CRUS-GALLI* L. Barn-yard Grass.

Rich, moist waste places; common. August 11.

In fruit sometimes when but two inches high.

- 45.\* (277.) *P. DICHOTOMUM* L. Forked Panicum.

Dry, open woods and gravelly banks; common. May 25.

46. (288a.) *P. PORTERIANUM* Nash. Porter's Panicum.

(*P. latifolium* L.)

Moist thickets and open woods; frequent. June 20.

47. (289.) *P. PROLIFERUM* Lam. Spreading Panicum.

Low, wet, sandy or gravelly places; frequent. August 14.

The culms from the same root vary much in length and number of branches, and are usually prostrate, and spreading irregularly.

48. (289a.) *P. PUBESCENS* Lam. Hairy Panicum.

A species so named for me by Mr. Nash. It grows commonly along the railway at Heckland and in Beach's woods.

The first record for the State.

- 49.\* (291.) *P. SANGUINALE* L. Crab Grass. Finger Grass.

Waste and cultivated grounds; abundant.

Dry, sandy fields in which early crops are cultivated are overrun in late autumn with this foreign grass. August 4.

- 50.\* (295.) *P. VIRGATUM* L. Tall, Smooth Panicum.

Sandy banks; scarce, except at Heckland, where it is frequent along the railway.

Our tallest species of the genus. August 20.

## 24. CHAMÆRAPHIS R. Br.

*(Setaria Beauv.)*

51. (300.) C. GLAUCA (L.) Kuntze. Foxtail. Pigeon Grass.  
*(Setaria glauca Beauv.)*

Cultivated grounds and stubble fields; abundant. June 25.

52. (301.) C. ITALICA (L.) Kuntze. Bengal Grass. Millet.  
*(Setaria italica Kunth.)*

Waste places along the old canal; scarce. June 10.

- 53.\* (304.) C. VIRIDIS (L.) Porter. Green Foxtail. Bottle Grass.  
*(Setaria viridis Beauv.)*

Waste or cultivated grounds; frequent. July 3.

## 25. CENCHRUS L.

54. (305.) C. TRIBULOIDES L. Sand Burs. Bur Grass. Hedgehog Grass.

Sandy banks along the river, railways and canal; common.

A tribulation, indeed, to barefooted boys. August 5.

## 26. ZIZANIA L.

55. (307.) Z. AQUATICA L. Indian Rice. Water Oats.  
Shallow water near margin of ponds; scarce.

In 1889, at the time the Five-Mile Pond contained so many specimens of *Nelumbo lutea* Pers., this grass grew in abundance near its northern border. The stems were many of them ten to twelve feet in height, and the leaves often a yard long. Like the *Nelumbo*, it has practically disappeared in recent years. Not noted elsewhere.

## 27. HOMALOCENCHRUS Mieg.

*(Leersia Swartz.)*

56. (308.) H. LENTICULARIS (Michx.) Scribn. Catch-fly Grass.  
*(L. lenticularis Michx.)*

Taken but once, October 6, 1893, from the margin of Five-Mile Pond.

The first record for the State.

- 57.\* (309.) H. ORYZOIDES (L.) Poll. Rice Cut-grass.  
*(L. oryzoides Swartz.)*

Ditches and borders of swamps; common. July 27.

- 58.\* (310.) H. VIRGINICUS (Willd.) Britton. White Grass.  
*(L. virginica Willd.)*

Damp woods and moist, shaded banks; frequent. August 10.

## 27a. ANTHOXANTHUM L.

- 58a. (314.) *A. ODORATUM* L. Sweet Vernal-grass.  
Meadows and borders of cultivated fields; frequent July 1.

## 28. ARISTIDA L.

59. (319.) *A. DICHOTOMA* Michx. Poverty Grass.  
Borders of sandy fields and banks of railways; frequent. August 17.

## 29. MUHLENBERGIA Schreb.

- 60.\* (343.) *M. DIFFUSA* Schreb. Drop-seed. Nimble Will.  
Dry woods, fence rows, etc.; common. August 14.
61. (345.) *M. MEXICANA* (L.) Trin. Drop-seed Grass.  
Low, moist, sandy soil; common. July 20.
62. (350.) *M. SYLVATICA* (Torr.) A. Gray. Wood Muhlenbergia.  
Low, damp woods; frequent. July 25.

## 30. PHLEUM L.

63. (355.) *P. PRATENSE* L. Timothy.  
Roadsides, fence rows, etc., escaped from cultivation; common.  
June 10.

## 31. SPOROBOLUS R. Br.

- 64.\* (363.) *S. ASPER* (Michx.) Kunth. Rough Rush-grass.  
Sandy banks and hillsides; scarce. August 30.  
Along the Van. railway near the gravel pit.  
The first record for the State.

## 35. CINNA L.

65. (379.) *C. ARUNDINACEA* L. Wood-reed Grass.  
Moist shaded banks; frequent. July 15.

## 33. AGROSTIS L.

66. (383.) *A. ALBA VULGARIS* (With.) Thurb. Red Top.  
Moist, rich soil along roadsides and in meadows; common.
- 67.\* (389.) *A. HIEMALIS* (Walt.) B. S. P. Hair Grass.  
(*A. scabra* Willd.)  
Borders of prairies; scarce. June 25.  
Heckland.
- 67a.\* (389a.) *A. INTERMEDIA* Scribn. Upland Bent-grass.  
Hillside near Five-Mile Pond; scarce. August 30.  
The first record for the State; the species having been described from Tennessee in 1894.

68. (390.) *A. PERENNANS* (Walt.) Tuckerm. Thin-grass.  
Damp, shady places; frequent. July 17.

34. *CALAMAGROSTIS* Adans.

69. (393.) *C. CANADENSIS* (Michx.) Beauv. Blue-joint Grass.  
Low, wet meadows and prairies; frequent. July 6.

35. *PHRAGMITES* Trin.

70. (447.) *P. PHRAGMITES* (L.) Karst. Reed.  
(*P. communis* Trin.)  
Ditch near Heckland Station, where it grows 14 feet high.  
Not seen elsewhere. Sept. 5.

36. *SIEGLINGIA* Bernh.

(*Triodia* R. Br.)

- 71.\* (449.) *S. SESLERIODES* (Michx.) Scribn. Tall Red-top.  
(*T. cuprea* Jacq.)  
Sandy banks and borders of fields; scarce. Aug. 5.  
Heckland, along the railroad; canal near Conover's Pond.  
The purple spreading panicle is very handsome, as handsome goes,  
among grasses.

37. *ERAGROSTIS* Beauv.

- 71a.\* (453.) *E. CAROLINIANA* (Spreng.) Scribn.  
Dry, sandy soil; frequent. August 14.
72. (456.) *E. FRANKII* Steud.  
Low, sandy, cultivated ground; frequent. August 15.  
A slender, low, tufted species.
73. (457.) *E. HYPNOIDES* (Lam.) B. S. P. Creeping Eragrostis.  
(*E. reptans* Nees.)  
Gravel bars and sandy banks; frequent. August 3.
- 74.\* (458.) *E. MAJOR* Host. Strong-scented Eragrostis.  
Sandy waste places; common. June 20.  
Handsome. Varies greatly in size, fruiting specimens ranging from  
two inches to two feet in height.
75. (459.) *E. PECTINACEA* (Michx.) Steud. Purple Eragrostis.  
Sandy hillsides; frequent. August 10.
76. (461.) *E. PILOSA* (L.) Beauv. Tufted Eragrostis.  
Gravelly banks along railways; scarce.  
Van. railway, near fair grounds. September 28, 1889.

## 38. EATONIA Raf.

77. (467.) E. PENNSYLVANICA (DC.) A. Gray.  
Moist, open woods; frequent. June 18.

## 39. DACTYLIS L.

78. (485.) D. GLOMERATA L. Orchard Grass.  
Borders of fields, roadsides, yards, etc.; frequent. June 11.

## 40. POA L.

79. (489.) P. ANNUA L. Low Spear-grass.  
Yards and roadsides; common. April 28.
80. (497.) P. FLAVA L. False Red-top. Fowl Meadow-grass.  
(*P. serotina* Ehrh.)  
Moist meadows; frequent. July 16.
81. (503.) P. PRATENSIS L. Kentucky Blue-grass. June Grass.  
Roadsides and pastures; abundant. May 14.  
Probably the most valuable wild grass known to man.

## 41. PANICULARIA Fabr.

(*Glyceria* R. Br.)

82. (522.) P. NERVATA (Willd.) Kuntze. Nerved Manna grass.  
(*G. nervata* Trin.)  
Low moist grounds; frequent. May 25.

## 42. FESTUCA L.

83. (530.) F. NUTANS Willd. Nodding Fescue-grass.  
Dry, wooded hillsides; scarce. July 17.  
Coal Creek. Beach's.

## 43. BROMUS L.

84. (541.) B. CILIATUS L. Wood Chess.  
Moist, sandy banks; frequent. July 3.  
Our tallest species, and the only native one thus far found in the county.
85. (548.) B. RACEMOSUS L. Upright Chess.  
Banks of river and along canal; scarce. June 28.
- 86.\* (549.) B. SECALINUS L. Cheat. Chess.  
Borders of grain fields and fence rows; frequent. May 25.

## 43a. LOLIUM L.

- 86a. (554.) L. PERENNE L. Ray-grass. Rye-grass.  
Borders of cultivated fields; frequent. July 10.



## 43b. AGROPYRON J. Gærtn.

- 86b. (561.) *A. REPENS* (L.) Beauv. Couch-grass. Quitch-grass.  
Old fields and cultivated grounds; common. July 20.  
A vile weed which is yearly becoming more troublesome.

## 44. ELYMUS L.

- 87.\* (572) *E. CANADENSIS* L. Nodding Wild Rye.  
Sandy banks of railways and canal; frequent. August 5.
- 88.\* (580.) *E. VIRGINICUS* L. Wild Rye.  
Banks of Wabash below Ft. Harrison, in sandy, shaded soil;  
scarce. August 14.

## CYPERACEÆ. Sedge Family.

## 45. CYPERUS L.

89. (589.) *C. DIANDRUS* Torr. Galingale.  
Low, wet or sandy grounds; common. August 5.
90. (616.) *C. SPECIOSUS* Vahl. Michaux's Cyperus.  
Low, sandy soil; scarce.  
Varies much in size. A specimen taken at Heckland, October 14, 1896,  
had six umbels, the stalk of each apparently springing from the surface of  
the ground, and the whole plant but  $2\frac{1}{2}$  inches in height.
91. (619.) *C. STRIGOSUS* L. Straw-colored Cyperus.  
Borders of ditches and marshes; common. August 1.

## 46. KYLLINGA Rottb.

92. (623.) *K. PUMILA* Michx. Kyllingia.  
Low, sandy waste or cultivated ground; frequent.  
A handsome little sedge, the flowering heads with a pleasing fragrance

## 47. DULICHIMUM L. C. Richard.

93. (624.) *D. ARUNDINACEUM* (L.) Britton. Dulichium.  
(*D. spathaceum* Pers.)  
Borders of marshes and ditches; frequent. July 20.

## 48. ELEOCHARIS R. Br.

94. (625.) *E. ACICULARIS* (L.) R. & S. Needle Spike-rush.  
Low muddy places about ponds; scarce.  
Five Mile Pond. May 22, 1889.
95. (638.) *E. OVATA* (Roth.) R. & S. Ovoid Spike-rush.  
Margins of ponds and ditches in shallow water; common. May 22
96. (645.) *E. TENUIS* (Willd.) Schultes. Slender Spike rush.  
Moist banks, prairies and ditches; frequent. May 25.

## 49. FIMBRISTYLIS Vahl.

97. (654.) F. AUTUMNALIS (L.) R. & S. Slender Fimbristylis.  
Low sandy soil; frequent. Aug. 10.

## 50. STENOPHYLLUS Raf.

98. (659.) S. CAPILLARIS (L.) Britton. Hair-like Stenophyllus.  
(*Fimbristylis capillaris* Gray.)  
Sandy banks and borders of fields; scarce.  
Heckland. T. H. & L. railway above Otter Creek Junction.  
Grows in dense circular tufts; the hair-like stems rarely a foot in height. July 18.

## 51. SCIRPUS L.

99. (660.) S. AMERICANUS Pers. Bulrush.  
(*S. pungens* Vahl.)  
Borders of ponds and large ditches; frequent. July 5.
100. (662.) S. ATROVIRENS Muhl. Dark Green Bulrush.  
Low, wet meadows and prairies; frequent. May 25.
101. (667.) S. CYPERINUS (L.) Kunth. Wool Grass.  
(*Eriophorum cyperinum* L.).  
Bogs and margins of ponds; scarce.  
Old canal bed below Spring Hill. Marsh north of Van. railway near Beach's.
102. (672.) S. FLUVIATILIS (Torr.) A. Gray. River Club-rush.  
Margins of Five-Mile Pond and Wabash River, near Durkey's Ferry; frequent locally.  
The culm sometimes seven feet high. July 10.
103. (674.) S. LACUSTRIS L. Great Bulrush.  
Margins of ponds and streams; abundant at Five-Mile and Goose Ponds, and sparingly at Coal Creek. June 5.

## 52. ERIOPHORUM L.

104. (697.) E. VIRGINICUM L. Cotton Grass.  
Scarce; marshy margin of Five-Mile Pond. September 21, 1887.

## 53. CAREX\* L.

105. (754.) C. ASA-GRAYI Bailey. Gray's Sedge.  
(*C. grayii* Carey.)  
Borders of ditches in shaded places; scarce. May 5.

\* A careful search will probably reveal as many more species of this genus as I have listed. No especial search was made for them, and such species only were taken as came conveniently to hand while collecting other plants for my classes in botany.

106. (773.) *C. CEPHALOPHORA* Muhl. Oval-headed Sedge.  
Fence rows and open woods; frequent. May 16.
107. (777.) *C. CONJUNCTA* Boott. Soft Fox Sedge.  
Taken but once; from the swampy woods at Heckland. June 5.
108. (780.) *C. CRINITA* Lam. Fringed Sedge.  
Marshes and sides of ditches; frequent. May 20.
109. (831.) *C. GRANULARIS* Muhl. Meadow Sedge.  
Borders of moist prairies; scarce.  
Heckland. May 17.
110. (851.) *C. LAXIFLORA* Lam. Loose flowered Sedge.  
Open woods and borders of fields; common. May 11.
111. (865.) *C. LUPULINA* Muhl. Hop Sedge.  
Low, wet woods and bogs; frequent. May 25.
- 111a. (867.) *C. LUPULINA GIGANTEA* (Rudge) Britton.  
(*C. lupulina pedunculata* Dewey.)  
Ditches and borders of marshes; frequent. May 10.
112. (870.) *C. LURIDA* Wahl. Sallow Sedge.  
Wet meadows; common. May 5.
113. (927.) *C. ROSEA* Schk. Stellate Sedge.  
Rich, moist hillsides; frequent. May 1.
114. (938.) *C. SCOPARIA* Schk. Pointed Broom Sedge.  
Low, wet places; frequent. June 3.
115. (940.) *C. SHORTIANA* Dewey. Short's Sedge.  
Scarce; ditch by side of Van. Railway near Glen. May 15.
116. (943.) *C. SPARGANOIDES* Muhl. Bur reed Sedge.  
Marshes and low, open woods; frequent. May 22.
117. (944.) *C. SQUARROSA* L. Rough Sedge.  
Low, wet meadows and ditches; frequent. May 25.
118. (950.) *C. STIPATA* Muhl. Awl-fruited Sedge.  
Low, wet ground; common. May 17.
119. (951.) *C. STRAMINEA* Willd. Straw Sedge.  
Open woods, thickets and fence rows; common. May 19.
120. (979.) *C. TRIBULOIDES* Wahl. Blunt Broom Sedge.  
Ditches along the railways; scarce. May 21.
121. (1003.) *C. VULPINOIDEA* Michx. Fox Sedge.  
Low, grassy places; common. May 25.

## ARACEÆ. Arum Family.

## 54. ACORUS L.

122. (1010.) A. CALAMUS L. Sweet Flag. Calamus.  
Marshes and wet places along streams; scarce. May 28.  
Glen. Grant. East of Sand Hill.

## 55. PELTANDRA Raf.

- 123.\* (1015.) P. VIRGINICA (L.) Kunth. Arrow Arum.  
(*P. undulata* Raf.)  
Large ditches and margins of ponds; scarce. June 9.  
Heckland. Goose Pond.

## 54. ARISÆMA Mart.

124. (1016.) A. DRACONTIUM (L.) Schott. Green Dragon. Dragon  
Root.  
Open woods in moist, rich soil; scarce. May 12.  
Sand Hill. S. E. of Hunt's. Ferrell's.
125. (1017.) A. TRIPHYLLUM (L.) Torr. Indian Turnip. Jack-in-  
the-Pulpit.  
Open woods, ravines, etc.; common. April 14.

## LEMNACEÆ. Duckweed Family.

## 57. SPIRODELA Schleid.

126. (1018.) S. POLYRHIZA (L.) Schleid. Duck's Meat. Duckweed.  
Ponds and slow-flowing ditches; common.

## 58. LEMNA L.

127. (1020.) L. MINOR L. Lesser Duckweed.  
Ponds and ditches; frequent. May 31, 1890.  
This species and *S. polyrhiza* L. often cover thickly the entire surface  
of the smaller ponds in the county.
128. (1022.) L. TRISULCA L. Star Duckweed.  
Ponds; scarce. May 31, 1890.  
Goose Pond.

## 59. WOLFFIA Horkel.

129. (1025.) W. COLUMBIANA Karst. Columbia Wolffia.  
Abundant in Goose Pond in 1890-91. Not noted elsewhere.

## COMMELINACEÆ. Spiderwort Family.

## 60. COMMELINA L.

130. (1043.) *C. VIRGINICA* L. Day Flower.  
Sandy banks; scarce. June 17.  
Old canal and hillside near Five-Mile Pond.

## 61. TRADESCANTIA L.

131. (1045.) *T. PILOSA* J. G. C. Lehm. Zig-zag Spiderwort.  
(*T. virginica flexuosa* Watson.)  
Dry, gravelly banks, especially along railways; frequent. June 5.  
The stems of this species are shorter and much more hairy than those of *T. virginiana* L. They are often branched, zigzag above, and bear a close cluster of small blue flowers in each of the upper axils.
132. (1047.) *T. VIRGINIANA* L. Common Spiderwort.  
Rich, moist banks and hillsides; frequent. May 22.

## PONTEDERIACEÆ. Pickerel weed Family.

## 62. PONTEDERIA L.

- 133.\* (1048.) *P. CORDATA* L. Pickerel-weed.  
Shallow water near margins of ponds; scarce. July 18.  
Goose Pond. Five-Mile Pond.

## 63. HETERANTHERA R. and P.

(*Schollera* Schreb.)

- 134 (1050.) *H. DUBIA* (Jacq.) Morong. Water Star-grass.  
(*H. graminea* Vahl.)  
Noted but once, Sept. 25, 1887, near the borders of an island in the Wabash River, where it was frequent.

## JUNCACEÆ. Rush Family.

## 64. JUNCUS\* L.

135. (1053.) *J. ACUMINATUS* Michx. Sharp-fruited Rush.  
Low, wet grounds; frequent. May 22.
- 135a. (1054.) *J. ACUMINATUS DEBILIS* (A. Gray) Engelm.  
Sandy margins of ponds; common. May 20.
136. (1070.) *J. EFFUSUS* L. Common or Soft Rush.  
Low muddy places; common. May 25.

\*The species of this genus have not been carefully collected and a number of additional forms doubtless occur in the county.

137. (1075.) *J. MARGINATUS* Rostk. Grass-leaved Rush.  
Ditches; scarce. May 28.  
Side of Van. railway, near Glen.
138. (1090.) *J. TENUIS* Willd. Wiry-stemmed Rush.  
Borders of damp fields, ditches, etc.; common. June 6.

65. *JUNCOIDES* Adans. -*(Luzula DC.)*

139. (1101.) *J. CAMPESTRE* (L.) Kuntze. Wood Rush.  
*(L. campestris DC.)*  
Open woods and fence rows; common. April 20.

## LILIACEÆ. Lily Family.

66. *VERATRUM* L.

140. (1120.) *V. woodii* Robb. Wood's False Hellebore.  
High, dry hills; scarce. July 5.  
Coal Creek.  
Occurs in Indiana as far north as Tippecanoe County. The root leaves are in a single, compact bunch, and are large and prominent in May and June.

67. *UVULARIA* L.

141. (1121.) *U. GRANDIFLORA* J. E. Smith. Large-flowered Bell-wort.  
Sides of ravines and wooded slopes; scarce. April 14.  
Honey Creek. Grant. Coal Creek.

68. *HEMEROCALLIS* L.

142. (1126.) *H. FULVA* L. Common Day Lily.  
Roadsides and banks of railways, escaped; scarce. June 2.

69. *ALLIUM* L.

143. (1128.) *A. CANADENSE* L. Wild Garlic.  
*(A canadense Kalm.)*  
Moist meadows and open woods; scarce.  
Heckland. South of Van. Railway, opposite Beach's. May 25.
144. (1129.) *A. CERNUUM* Roth. Wild Onion.  
Sides of ravines and gravelly banks; rare.  
Glen. May 28, 1887. *(Evermann.)*
145. (1135.) *A. TRICOCCUM* Ait. Wild Leek.  
Rich, moist hillsides; rare.  
Coal Creek. June 6, 1893.

## 70. NOTHOSCORDUM Kunth.

- 146.\* (1137. N. ORNITHOGALOIDES (Walt.) Kunth. Yellow False Garlic.

(*N. striatum* Kunth.)

Sandy hillsides and gravelly banks; scarce.

Hillside east of Five-Mile Pond; Lost Creek near Seventh Street bridge.

## 71. LILIUM L.

- 147.\* (1139.) L. CANADENSE L. Wild Yellow Lily.

Moist banks; rare.

Van. railway near Glen. June 29.

148. (1143.) L. PHILADELPHICUM L. Wild Orange-red Lily.

Prairies and sandy banks; rare.

Heckland. June 14.

## 72. ERYTHRONIUM L.

- 149.\* (1147.) E. ALBIDUM Nutt. White Dog's-tooth Violet.

Low open woods and clearings; frequent. April 13.

150. (1148.) E. AMERICANUM Ker. Yellow Adder's Tongue. Dog's-tooth Violet.

Open woods, in rich, rather moist soil; common. April 1.

## 73. CAMASSIA Lindl.

151. (1152.) C. FRASERI (A. Gray) Torr. Eastern Quamash. Wild Hyacinth.

Banks and hillside thickets; scarce.

Lost Creek, near Seventh Street bridge. Hillside, near Ft. Harrison. May 8.

## 74. ORNITHOGALUM L.

152. (1154.) O. UMBELLATUM L. Star-of-Bethlehem.

Escaped, sparingly.

Hillside west of Beach's. May 3.

## 75. ASPARAGUS L.

153. (1160.) A. OFFICINALIS L. Garden Asparagus.

Sandy banks, roadsides and borders of fields, escaped; frequent, especially along the old canal. May 10.

## 76. VAGNERA Adans.

*(Smilacina Desf.)*

154. (1164.) V. RACEMOSA (L.) Morong. False Solomon's Seal.  
False Spikenard.

*(S. racemosa Desf.)*

Moist, shaded banks and woods; frequent. May 11.

## 77. POLYGONATUM Adans.

155. (1172.) P. BIFLORUM (Walt.) Ell. Smaller Solomon's Seal.  
Open woods and fence rows; frequent. May 11.

- 155a. (1173.) P. BIFLORUM COMMUTATUM (R. & S.) Morong. Great  
Solomon's Seal.

*(P. giganteum Dietr.)*

Shaded banks and damp hillside thickets; frequent. May 21.

## 78. TRILLIUM L.

156. (1176.) T. CERNUUM L. Nodding Trillium.  
Moist hillside thickets; scarce. April 27.  
Coal Creek. Grant.

157. (1177.) T. ERECTUM L. Birth Root. Bath Flower.  
Sides of ravines in rich, shaded soil; scarce.  
Southeast of Hunt's. Honey Creek. April 27.

All specimens taken were the white flowered form with long declined peduncle, (*T. erectum declinatum* Gray's Man., 5th ed.). Specimens with leaves measuring  $7 \times 6\frac{1}{3}$  inches, and peduncles  $4\frac{1}{2}$  inches in length have been noted.

158. (1180.) T. RECURVATUM Beck. Recurved Purple Trillium.  
Moist, rich woods; common. April 10.

159. (1181.) T. SESSILE L. Sessile Trillium.  
Open, rich woods; common. April 8.  
The leaves rarely six, in two whorls.

## 79. ALETRIS L.

160. (1182b.) A. FARINOSA L. Aletris. Colic-root. Star-grass.  
Unicorn.  
Prairies, in dry or sandy soil; scarce. June 3.  
Heckland.



## SMILACEÆ. Smilax Family.

## 80. SMILAX L.

161. (1185.) *S. GLAUCA* Walt. Glaucous-leaved Green-brier.

Thickets in dry, sandy soil; scarce. May 22.

Canal bank north of Ft. Harrison.

162. (1186.) *S. HERBACEA* L. Carrion Flower.

Thickets and fence rows in moist soil; frequent. May 20.

The vile-smelling flowers in globular, umbel-like heads. Gray's Manual states that these heads contain twenty to forty flowers, but a head of fruit collected in October, 1896, was seven and one-half inches in circumference and contained 251 berries.

- 163 (1187.) *S. HISPIDA* Muhl. Hispid Green-brier.

Rich, open woods in sandy soil, climbing twenty-five or more feet over shrubs or low trees; frequent. May 21.

This species has larger leaves (the blade of a specimen at hand being six and one-half inches long by five and three-quarters wide) and climbs higher than any other in the county. It is but little, if any, branched. The spines are of two sizes, the larger and fewer ones about two-thirds of an inch long and scattered irregularly the full length of the stem, but more common on its basal half. The small black ones are very numerous on the lower five or six feet of a mature stem, but are seldom found higher up.

164. (1190.) *S. PSEUDO CHINA* L. Long-stalked Green-brier.

Sandy, hillside thickets; scarce. May 21.

Thicket near Five-Mile Pond. (*Evermann.*)

165. (1191.) *S. ROTUNDIFOLIA* L. Common Green-brier. Sheep-brier.

Moist woods and borders of thickets; common. May 11.

- 165a. (—) *S. ROTUNDIFOLIA QUADRANGULARIS* Gray. Four-angled Green-brier.

Dryer soil; frequent. June 3.

## AMARYLLIDACEÆ. Amaryllis Family.

## 81. HYPOXIS L.

- 166.\* (1199.) *H. HIRSUTA* (L.) Coville. Star-grass.

(*H. erecta* L.)

Open, sandy woods; scarce. May 7.

Five-Mile Pond. Heckland.

## DIOSCOREACEÆ. Yam Family.

## 82. DIOSCOREA L.

167. (1200a.)
- D. villosa*
- L. Wild Yam.

Borders of thickets and fence rows; scarce.

Beach's. Ferrell's.

The three-celled broadly winged pods are quite ornamental in autumn.

## IRIDACEÆ. Iris Family.

## 83. IRIS L.

168. (1212.)
- I. versicolor*
- L. Larger Blue Flag.

Low, wet places; frequent. May 10.

## 84. GEMMINGIA Fabr.

(*Belamcanda* Adans.)

169. (1214.)
- G. chinensis*
- (L.) Kuntze. Blackberry Lily.

(*B. chinensis* Adans.)

Roadsides, escaped; scarce.

Two miles south of Atherton. (*Scovell*.)

## 85. SISYRINCHIUM L.

170. (1215.)
- S. bermudiana*
- L. Blue-eyed Grass.

(*S. angustifolium* Mill.)

Moist, grassy places; common.

The form known as *S. anceps* Cav. is frequent at Heckland along the borders of moist prairies.

## ORCHIDACEÆ. Orchis Family.

## 86. CYPREPIDIUM L.

- 171.\* (1221.)
- C. hirsutum*
- Mill. Larger Yellow Lady's Slipper.

Moccasin Flower.

(*C. pubescens* Willd.)

Rich, dry woods; scarce.

Heckland. Coal Creek. May 16.

## 87. ORCHIS L.

172. (1225.)
- O. spectabilis*
- L. Showy Orchis.

Open, rich woods; frequent.

Opposite St. Mary's; Sand Hill, etc. April 23.

## 88. HABENARIA Willd.

173. (1228.) *H. BRACTEATA* (Willd.) R. Br. Bracted Green Orchis.  
Wooded hillsides; rare.  
Coal Creek. May 18, 1893.  
Three specimens found, no one of which was more than eight-flowered.

174. (1233.) *H. FLAVA* (L.) A. Gray. Greenish Orchis.  
(*H. virescens* Spreng.)  
Damp, dense woods; rare.  
Heckland. June 10, 1891.  
Recorded before only from Noble County.

## 89. GYRSTACHYS Pers.

(Spiranthes Richard.)

175. (1252.) *G. CERNUA* (L.) Kuntze. Ladies' Tresses. Screw Stem.  
(*S. cernua* Richard.)  
Margins of moist meadows and ponds; scarce.  
Goose Pond. Heckland. September 4.

## 90. PERAMIMUM Salisb.

(Goodyera R. Br.)

176. (1263.) *P. PUBESCENS* (Willd.) C. C. Curtiss. Rattlesnake  
Plantain.  
(*G. pubescens* R. Br.)  
High, dry hills; rare.  
Coal Creek. September 18, 1892. In fruit.  
Readily known by its handsome, white-reticulated root-leaves.

## 91. ACHROANTHES Raf.

(Microstylis Nutt.)

177. (1266.) *A. UNIFOLIA* (Michx.) Raf. Adder's Tongue Orchis.  
(*M. ophioglossoides* Nutt.)  
High, dry hills; rare.

A single specimen was taken at Coal Creek, September 28, 1893. In Monroe County a number of specimens were secured from high hills, where they were found in company with *Medeola virginiana* L., *Pogonia verticillata* Nutt., and in the midst of clumps of the moss *Polytrichum commune* L. Specimens taken by the writer in Arkansas were also found on high hills, though the habitat given in Gray's Manual is "low, moist ground." The Monroe County plants were recorded in Proc. Ind. Acad. Sci., 1895, 198.

## 92. LEPTORCHIS Du Petit Thouars.

(Liparis Richard)

178. (1267.) L. LILIIFOLIA (L.) Kuntze. Tway-blade.

(Liparis liliifolia Richard.)

Rich, open woods; rare.

Taken but once, southeast of Hunt's Rosary. June 11, 1888.

## 93. APLECTRUM Nutt.

179. (1278.) A. SPICATUM (Walt.) B. S. P. Putty-root. Adam and Eve.

(A. hiemale Nutt.)

Rich, sandy soil in open woods; frequent. May 8.

This is by far the most common orchid found in the county, having been noted in a dozen or more localities—Sand Hill, Beach's, Coal Creek, etc. The corms are eaten raw by some people, and their mucilaginous center is said to be a good cement for porcelain-ware, etc.

## DICOTYLEDONES.

## SAURURACEÆ. Lizard's Tail Family.

## 94. SAURURUS L.

- 180.\* (1279.) S. CERNUUS L. Lizard's Tail.

Ditches and borders of ponds; frequent. June 12.

Conover's Pond. Van. railway near Beach's. Heckland.

## JUGLANDACEÆ. Walnut Family.

## 95. JUGLANS L.

181. (1280.) J. CINEREA L. Butternut. White Walnut.

Sides of ravines and open upland or river terrace woods in rich soil; frequent. April 20.

The fruit sometimes double.

182. (1281.) J. NIGRA L. Black Walnut.

Rich, open woods; frequent. April 15.

All the larger trees have long since been sawed into lumber, and a specimen two feet in diameter is now seldom seen.

## 96. HICORIA Raf.

(Carya Nutt.)

183. (1282) *H. ALBA* (L.) Britton. Mocker-nut. White heart Hickory.  
*C. tomentosa* (Nutt.)

Wooded slopes and open upland woods; frequent.

Nut smaller than that of *H. sulcata*, which it most closely resembles; often attenuate above; shell very hard; kernel less sweet; husk thinner, not parted to the base.

184. (1283.) *H. GLABRA* (Mill.) Britton. Pignut. Broom Hickory.  
 Black Hickory.

(C. porcina Nutt.)

Dry Hills and uplands; frequent.

The wood excels for making axe-handles.

185. (1285.) *H. MINIMA* (Marsh.) Britton. Bitter-nut. Swamp Hickory.  
*C. amara* Nutt.)

Moist, open woods and borders of swamps; frequent.

Nut more rounded, shell thinner, and kernel much more bitter than in *H. glabra*.

186. (1286.) *H. OVATA* (Mill.) Britton. Shell or Shag-bark Hickory.  
*C. alba* Nutt.)

Open woods and sloping hillsides in rich soil; common. April 18.

187. (1287.) *H. PECAN* (Marsh.) Britton. Pecan Nut.  
*C. olivaeformis* Nutt.)

Rich bottom lands; scarce.

Several trees grow in the river bottoms north of Ft. Harrison.

188. (1288.) *H. SULCATA* (Willd.) Britton. Big Shell-bark. King-nut. Big-nut Hickory.  
*C. sulcata* Nutt.)

Moist, rich, usually alluvial soil; scarce. April 23.

McKeen's woods. Woods near Goose Pond. River bottoms north of Ft. Harrison.

Bark less shaggy than in *H. ovata*. Nut large, a little longer than broad; mucronate at both ends; kernel sweet; husk very thick, completely separating into four pieces.

## SALICACEÆ. Willow Family.

## 97. POPULUS L.

- 189.\* (1299.) *P. HETEROPHYLLA* L. Downy Poplar.

Noted only around the borders of the Goose Pond, where it is common.

Probably its most northern record. May 10.

190. (1300.) *P. MONILIFERA* Ait. Cottonwood. Necklace Poplar.  
Borders of streams and low alluvial soil; common. April 5.  
Specimens along the Wabash reach a height of 130 feet. The wood is too light and soft to be of great commercial value, but is much used for paper pulp, packing cases, matched ceiling, etc.
191. (1302.) *P. TREMULOIDES* Michx. American Aspen. Quaking Asp.  
Dry hillside woods and clearings; scarce.  
Heckland. Coal Creek. April 5.  
All trees noted were of small size.

98. *SALIX* L.

192. (1304.) *S. ALBA* L. White Willow.  
Old fields near dwellings; scarce.  
South of the Seventh Street bridge across Honey Creek is an example measuring thirteen feet and eight inches in circumference.
193. (1316.) *S. CORDATA* Muhl. Heart-leaved Willow.  
Low, moist places; common. April 20.  
Shrubs three to fifteen feet high, the stipules reniform, toothed, conspicuous.
194. (1320.) *S. DISCOLOR* Muhl. Glaucous Willow. Pussy Willow.  
Low, wet banks and borders of prairie swamps; frequent. April 5.  
Grows in dense clumps and is the first willow to bloom in spring.
195. (1330.) *S. HUMILIS* Marsh. Prairie Willow.  
Noted only in the raw prairie at Heckland, where it is common.  
April 20.  
A shrub, two to six feet high; usually two or three together.
196. (1331.) *S. LONGIFOLIA* Muhl. Long-leaved Willow. Sand-bar Willow.  
Sandy, moist places along the Wabash river and the larger ponds; frequent. April 20.
197. (1335.) *S. NIGRA* Marsh. Black Willow.  
Banks of streams and ponds; common. May 10.  
This is the largest native willow found in the county, in some instances reaching a diameter of nearly two feet. Along the low banks of the smaller streams it often grows in great masses. The roots often extend in search of moisture to a depth of ten feet or more into the alluvial soil in which the species usually grows.

- 197a. (1336.) *S. NIGRA FALCATA* Torr. Scythe leaved Black Willow.  
With the type, but less frequent.
198. (1338.) *S. PETIOLARIS* Smith. Petioled Willow.  
Low, moist, sandy banks; scarce. April 15.  
Bottoms along Old Canal from Ft. Harrison to Five-Mile Pond;  
Heckland.

## BETULACEÆ. Birch Family.

99. *CARPINUS* L.

199. (1349.) *C. CAROLINIANA* Walt. Water Beech. Horn-beam.  
Borders of streams and swamps; frequent.  
The wood of both this and the next species is very heavy, strong and  
durable, and fitted for posts, levers, handles of tools, etc.

100. *OSTRYA* Scop.

200. (1350.) *O. VIRGINIANA* (Mill.) Willd. Hop-Hornbeam. Iron  
Wood. Lever Wood. Deer Wood.  
Dry woods and sides of ravines; frequent.

101. *CORYLUS* L.

201. (1351.) *C. AMERICANA* Walt. Wild Hazle-nut.  
Borders of woods and clearings in dry soil; frequent. March 16.

102. *BETULA*.

202. (1356.) *B. NIGRA* L. River Birch. Red Birch.  
Banks of streams; common along Honey Creek and its tributaries.  
April 25.  
Noted also by the writer in Putnam County along the tributaries of  
Eel River, and in Marion County, northwest of Indianapolis, along White  
River.

## FAGACEÆ. Beech Family.

103. *FAGUS* L.

203. (1367.) *F. ATROPUNICEA* (Marsh.) Sudw. American Beech.  
(*F. ferruginea* Ait.)  
Upland, usually flat, damp woods in clayey soil; common. April 16.  
Many of the farmers and woodmen of Vigo County recognize two  
species of beech—the one, “Red Beech,” growing in dry soil, a rather  
small, scraggy tree, which retains its leaves through most of the winter,  
and the wood of which is almost uncleavable on account of its curly or  
twisted fibres; the other, the “White Beech,” the large, straight boled  
tree, growing in moist soil, the leaves deciduous in autumn, the wood

easily split, and having a high value for fuel and the making of chairs, shoe-lasts and tool handles.

104. QUERCUS L.

204.\* (1370.) Q. ALBA L. White Oak.

Open, upland woods; usually in dry, rather poor soil; common.

One of the most valuable of the forest trees yet remaining in any numbers. The largest specimens have been removed, but many of medium size are still to be found in the eastern half of the county. Within the last two decades the lumber of this species has been put to many uses for which it was spurned when walnut, "yellow poplar" and other trees were abundant. As a consequence, the value of white oak trees has slowly but surely enhanced, and the farmer has often received more for them than the land on which they grew was worth.

205. (1375.) Q. COCCINEA Wang. Scarlet Oak.

Sandy hillsides and river terrace woods; frequent.

Spring Hill; near Five-Mile Pond, etc.

Known by its grayish, rather smooth bark; its shining, narrow-lobed leaves, which turn bright red in autumn, and its medium-sized, white-meated acorn, half covered with a top-shaped cup.

This species is seldom distinguished by the land-owner from the red oak (*Q. rubra* L.). Its wood is similar in structure, and the uses to which it is put are practically the same.

206. (1381.) Q. IMBRICARIA Michx. Shingle Oak. Laurel Oak. Peach-leaved Oak.

Wooded slopes in loose, sandy soil; common.

Distinguished by its shining, lanceolate entire leaves, resembling in general appearance those of the peach. They often remain on the tree throughout the winter, and when old have the lower surface thickly covered with yellowish down. The acorn is short and broad, with the cup covering its lower third. Among the farmers of Vigo County this species is most commonly known as the "Jack Oak," a name which more rightfully belongs to *Quercus nigra* L. The wood is coarse-grained, heavy and hard, but is seldom used except for fuel, for which it is highly esteemed; and for clapboards.

207. (1385.) Q. MACROCARPA Michx. Bur Oak. Over Cup or Mossy Cup Oak.

Open woods, especially those of the river terrace; common.  
May 15.

Readily known by its thick, rough, shaggy bark; its many long branches, the lowermost ones on the larger trees usually within ten feet of the ground; its large obovate leaves and large acorn with the cup margined with a moss-like fringe. The lumber is close-grained, hard and durable and valuable for many purposes.



208. (1388.) *Q. MINOR* (Marsh.) Sarg. Post Oak. Iron Oak.  
(*Q. stellata* Wang.)

Dry, sandy soil; scarce.

Hillside near Spring Hill. Roadside one mile north of Goose Pond.  
May 20.

A small oak with close gray bark; the leaves thick, with broad rounded lobes, covered beneath with rusty down. Acorns very small.

- 209.\* (1389.) *Q. MUHLENBERGHII* Engelm. Yellow Oak. Chinquapin Oak. False Chestnut Oak.

Upland wooded slopes and river terrace woods in rich, loose soil; common.

In Vigo County two marked varieties of this tree occur: In the one the leaves closely resemble those of the common chestnut, being lanceolate, acuminate,  $5\frac{1}{2}$  inches long by  $1\frac{3}{4}$  inches wide (average), sharply serrate, the veins very prominent; in the other the leaves are broadly ovate or obovate, 7 inches long by 5 wide, the teeth rounded, the veins less prominent. The bark of each closely resembles that of the white oak, and the acorns of both are rather small, sweet and edible. No connecting forms are seen, and I would consider the two distinct, but Dr. J. M. Coulter, to whom specimens were sent, writes that they are considered varieties of one species by Dr. Engelman and other authorities who have made a special study of the oaks.

210. (1393.) *Q. PALUSTRIS* DuRoi. Swamp Spanish Oak. Pin Oak.  
Borders of swamps and low, wet woods; frequent.

Known by its very smooth, dark-gray bark; its narrow-lobed, glossy leaves; its *small* acorn with very shallow, saucer-shaped cup. The lower limbs of this oak are also almost invariably decurved and at a little distance appear thorny on account of the many short shoots, or secondary branches which they bear. The tree is seldom large enough to be profitably worked, and is little used, except for clapboards and staves.

211. (1396.) *Q. PLATANOIDES* (Lam.) Sudw. Swamp White Oak.  
(*Q. bicolor* Willd.)

Swampy places in upland or river terrace woods; scarce.

Deming's woods on Poplar Street road. Section 33, Honey Creek Township, etc. May 15.

The bark resembles that of the white oak (*Q. alba* L.), but the leaves are much larger, obovate, with a wedge-shaped base, and, when old, white-hoary beneath. The acorns are somewhat shorter, but of greater diameter, and more pointed than those of the white oak.

212. (1399.) *Q. RUBRA* L. Red Oak.

Dry hillsides and flat upland woods; common.

Known by its smoothish, dark-gray bark; its large, thin leaves, the lobes of which are acuminate and broad at base, and the large acorn, one

inch long, with short, flat cup. The leaves turn a dull brownish red after frost. The wood is reddish, coarse-grained and inferior in value, being used mainly for clapboards, staves, and cheap grades of furniture.

213. (1401.) *Q. VELUTINA* Lam. Black Oak. Quercitron. Yellow-barked Oak

(*Q. coccinea* var. *tinctoria* Bartram.)

Moist or dry upland soil; frequent.

Distinguished from the scarlet oak (*Q. coccinea* Wang.), which it most closely resembles, by its black or dark-brown, deeply furrowed outer bark, which is rich in tannin; its orange-colored, very bitter inner bark, which yields *quercitron*, a valuable yellow dye; its much broader-lobed, less shining leaves, which turn yellow or dark red in autumn, and by its somewhat shorter, less pointed, yellowish-meated acorn. The wood is reddish and coarse-grained, stronger and more durable than that of either the red or scarlet oak.

#### ULMACEÆ. Elm Family.

##### 105. ULMUS L.

214. (1403.) *U. ALATA* Michx. Winged Elm.

One or two specimens grow near the I. & St. L. trestle west of Wabash River. Frequent in Crawford and Harrison counties.

215. (1404.) *U. AMERICANA* L. White Elm. American Elm.

Low, open woods; common. April 12.

The American or White Elm is one of the most handsome native forest trees. It will grow in any soil, but reaches its greatest development in low, rich woods and along small streams. It branches widely, and in cities possessing broad streets it is well suited for shade purposes. Where properly set out and tended, streets planted with it become in time columned and arched like the aisles of a Gothic cathedral.

Its one great disadvantage, however, is its liability to injury from insects. In this country over 80 species prey upon it. The elm tree borer, numerous varieties of caterpillars, and a plant louse which disfigures the leaves by crumpling and distorting them, are its most abundant enemies in Indiana; while in the eastern States, and rapidly traveling westward, is the "Imported Elm Leaf Beetle," which literally strips the tree of its foliage.

216. (1405.) *U. PUBESCENS* Walt. Slippery Elm. Red Elm.

(*U. fulva* Michx.)

Rich woods and sides of ravines; frequent. March 29.

## 106. CELTIS L.

217. (1408.) C. OCCIDENTALIS L. Hackberry. Sugarberry.  
Open woods, especially those of river terrace; frequent. April 14.

## MORACEÆ. Mulberry Family.

## 107. MORUS L.

218. (1412.) M. RUBRA L. Red Mulberry.  
Open, rich woods and borders of old fields; frequent. May 1.  
Leaves have been measured which were eight inches broad and  $10\frac{1}{2}$  inches long. In Vigo County the fruit ripens about June 15.

## 108. TOXYLON Raf.

(*Maclura* Nutt.)

219. (1413.) T. POMIFERUM Raf. Osage Orange.  
(*M. aurantica* Nutt.)  
Escaped, sparingly.  
Banks of Sugar Creek below National Road bridge. Roadside near St. Mary's.

## 109. HUMULUS L.

220. (1414.) H. LUPULUS L. Common Hop.  
Noted along Lost Creek and banks of Van. Railway near Glen;  
scarce. May 25.

## 110. CANNABIS L.

221. (1415.) C. SATIVA L. Hemp.  
Waste, sandy places; frequent. July 12.  
Sometimes grows to a height of 12 feet.

## URTICACEÆ. Nettle Family.

## 111. URTICA L.

222. (1418.) U. GRACILIS Ait. Tall Nettle.  
Fence rows and borders of woods in moist, rich soil; frequent. June 13.

## 112. URTICASTRUM Fabric.

(*Laportea* Gaud.)

223. (1420.) U. DIVARICATUM (L.) Kuntze. Wood Nettle.  
(*L. canadensis* Gaud.)  
Low moist woods and sides of ravines; scarce. July 1.  
Coal Creek. Woods south of Van. Railway, near Beach's.

## 113. ADICEA Raf.

*(Pilea Lindl.)*

224. (1421.) A. PUMILA (L.) Raf. Clearweed. Richweed.

*(P. pumila Gray.)*

Bottoms of ravines and moist, shaded places; frequent. June 10.

## 114. BOEHMERIA Jacq.

225. (1422.) B. CYLINDRICA (L.) Willd. False Nettle.

Low, moist woods and borders of swamps; frequent. June 16.

## SANTALACEÆ. Sandal-wood Family.

## 115. COMANDRA Nutt.

226. (1429.) C. UMBELLATA (L.) Nutt. Bastard Toad-flax.

Dry virgin prairies; scarce. May 7.

Heckland.

## ARISTOLOCHIACEÆ. Birthwort Family.

## 116. ASARUM L.

- 227.\* (1432.) A. CANADENSE L. Wild Ginger.

Sides of ravines and rich wooded slopes; frequent. April 17.

Honey Creek; southeast of Hunt's; Coal Creek, etc.

## POLYGONACEÆ. Buckwheat Family.

## 117. RUMEX L.

228. (1454.) R. ACETOSELLA L. Field Sorrel. Sheep Sorrel.

Barren or poor soil, roadsides, old fields, etc.; abundant. May 11.

- 229.\* (1455) R. ALTISSIMUS Wood. Pale Dock. Peach-leaved Dock.

Borders of ponds, ditches, and moist banks; common. May 4.

230. (1458.) R. CRISPUS L. Curled Dock.

Rich, waste soil; abundant. May 25.

231. (1460.) R. OBTUSIFOLIUS. Bitter Dock.

Roadsides and waste places; common. June 11.

232. (1468.) R. VERTICILLATUS L. Swamp Dock.

Swamps and borders of marshes; frequent. June 14.

Margins of Goose and Five-Mile ponds. Heckland.

## 118. POLYGONUM L.

- 233.\* (1470.) *P. AMPHIBIUM* L. Water Persicaria.

Shallow water near margins of ponds; common. July 7.

This species, and *P. pennsylvanica* L., cover acres of the margins of the larger ponds of Vigo County. The flowers of both are more showy than those of any other of our native species; the spikes of *P. amphibium* often paired.

- 234.\* (1471.) *P. ARIFOLIUM* L. Halberd-leaved Tear Thumb.

Ravines and borders of small streams; scarce.

Along Lost Creek, south side of Van. Railway, and one of its tributaries east of Highland Lawn. Found also near Michigan City, Lake County.

235. (1472.) *P. AVICULARE* L. Knot Weed. Doorweed. Goose Grass.

Yards, roadsides, etc.; abundant. June 1.

236. (1477.) *P. CONVULVULUS* L. Black Bindweed.

Borders of cultivated fields and fence rows; frequent, June 10.

237. (1482.) *P. EMERSUM* (Michx.) Britton.

(*P. muhlenbergii* Watson.)

Sandy margins of ponds and marshes; frequent. June 10.

Conover's and Five-Mile ponds. Marsh south of Fair Ground.

238. (1483.) *P. ERECTUM* L. Erect Knot Grass.

Damp, waste soil; common. June 27.

- 239.\* (1486.) *P. HYDROPIPER* L. Common Smartweed. Water Pepper.

Ditches and borders of ponds; common. July 11.

- 240.\* (1487.) *P. HYDROPIPEROIDES* Michx. Mild Water Pepper.

Shallow water and muddy margins of ponds; common. July 18.

- 241.\* (1493.) *P. PENNSYLVANICUM* L. Pennsylvania Knotweed. Glandular Knotweed.

Ditches and borders of ponds; common. July 12.

- 242.\* (1499.) *P. PERSICARIA* L. Lady's Thumb. Heartweed.

Low wet soil; common. June 8.

- 243.\* (1500.) *P. PUNCTATUM* Ell. Water Smartweed.

(*P. acre* HBK.)

Swamps and low ground along the river; common. July 14.

- 244.\* (1502.) *P. RAMOSISSIMUM* Michx.

Low, sandy grounds; scarce. July 11.

Borders of woods near marsh, south of Fair Ground.

The first record for the State.

- 245.\* (1504.) *P. SAGITTATUM* L. Arrow-leaved Tear-thumb.  
Low, wet places, especially about borders of upland thickets where  
it often climbs six to eight feet high over shrubs and tall grass;  
common. August 2.
246. (1505.) *P. SCANDENS* L. Climbing False Buckwheat.  
(*P. dumetorum scandens* Gray.)  
Moist, open woods, fence rows, etc.; abundant. July 18.  
Sometimes twines 20 or more feet high over the sides of a honey locust  
or other much-branched tree.
247. (1507.) *P. TENUE* Michx.  
Rich, dry soil; scarce. August 1.  
Borders of McKeen's woods. Beach's.
- 248.\* (1508.) *P. VIRGINIANUM* L. Virginia Smartweed.  
Dense woods in moist, rich soil; common. July 20.

119. *FAGOPYRUM* Gaertn.

249. (1510.) *F. FAGOPYRUM* (L.) Karst. Buckwheat.  
(*F. esculentum* Moench.)  
Borders of old fields and along railways; scarce. May 25.  
Heckland.

## CHENOPODIACEÆ. Goosefoot Family.

120. *CHENOPODIUM* L.

250. (1515.) *C. ALBUM* L. Lamb's-Quarters. Pigweed.  
Waste or cultivated grounds; very common. July 6.
251. (1517.) *C. AMBROSIODES* L. Mexican Tea.  
Streets and alleys of Terre Haute; common. July 2.
252. (1518.) *C. ANTHELMINTICUM* L. Wormseed.  
(*C. ambrosioides anthelminticum* Gray.)  
With the preceding; less frequent. July 28.
253. (1521.) *C. BOSCIANUM* Moq.  
Dry, sandy soil, in open places; scarce.  
North Sand Hill. Oct. 17, 1896.  
The flowers much smaller than in allied species; on slender recurved  
branches; the black seeds easily separated from the enclosing pericarp.  
The first record for the State.
254. (1522.) *C. BOTRYS* L. Jerusalem Oak. Feather Geranium.  
Waste places along the river front; scarce. June 28.

255. (1527.) *C. HYBRIDUM* L. Maple-leaved Goosefoot.  
 Borders of cultivated fields and banks of old canal; common.  
 June 18.
256. (1533.) *C. URBICUM* L.  
 Commons and waste places about the city; frequent. June 15.

## AMARANTHACEÆ. Amaranth Family.

## 121. AMARANTHUS L.

257. (1556.) *A. GRAECIZANS* L. Tumbleweed. White Pigweed.  
 (*A. albus* L.)  
 Waste, sandy places; common. July 20.  
 A specimen with the branches incurved to a globular form and measuring 5 feet, 7 inches in circumference, was taken from the old canal bed near Conover's Pond, in September, 1889.
258. (1561.) *A. HYBRIDUS PANICULATUS* (L.) Uline & Bray. Panicked Pigweed.  
 (*A. paniculatus* L.)  
 Fence rows along cultivated fields; frequent. July 1.
259. (1564.) *A. RETROFLEXUS* L. Pig-weed. Red-root. Amaranth.  
 Cultivated grounds; very common. July 3.
260. (1565.) *A. SPINOSUS* L. Thorny Amaranth.  
 Roadsides and commons of city; frequent. July 15.

## 122. ACNIDA L.

- 261.\* (1569.) *A. TAMARISCINA* (Nutt.) Wood. Water Hemp.  
 (*A. tuberculata* Moq.)  
 Gravel and sand banks of Wabash River; common. August 20.
- 261a.\* (1570.) *A. TAMARISCINA SUBNUDA* (S. Wats.) Coulter.  
 (*A. tuberculata* var. *subnuda* Wats.)  
 Borders of ponds in wet, sandy soil; frequent.  
 Usually prostrate with the reddish flowers in dense, globular axillary heads.

## PHYTOLACCACEÆ. Poke-weed Family.

## 123. PHYTOLACCA L.

262. (1575.) *P. DECANDRA* L. Poke-weed. Pigeon-berry. Poke-root.  
 Roadsides and fence rows in rich, moist soil; frequent. June 16.

## AIZOACEÆ. Carpet Weed Family.

## 124. MOLLUGO L.

263. (1583.) *M. VERTICILLATA* L. Carpet Weed. Indian Chickweed.

Open, bare, sandy places and cultivated fields; common. May 11 to November 15.

## PORTULACACEÆ. Purslane Family.

## 125. CLAYTONIA L.

264. (1589.) *C. VIRGINICA* L. Narrow-leaved Spring Beauty.

Moist, open woods; common. March 23.

Varies much in width and length of leaves, and in color of flowers from deep pink to almost white.

## 126. PORTULACA L.

265. (1593.) *P. OLERACEA* L. Common Purslane. Pusley.

Gardens and cultivated grounds; abundant. May 8.

## CARYOPHYLLACEÆ Pink Family.

## 127. AGROSTEMMA L.

266. (1596.) *A. GITHAGO* L. Corn Cockle.

(*Lychnis githago* L.)

Borders of railways and wheatfields; frequent. May 20.

A handsome, but vile weed.

## 128. SILENE L. Campions.

"To prevent ants, small beetles, and other honey-eating intruders from creeping up the stalk, and so rifling the nectaries without doing any good to the plant in return, the stems of the campions are covered with hairs, and exude a sticky, viscid gum, both of which peculiarities aid them in baffling the unwelcome wingless visitors, while the inflated calyx and long tube effectually keep out all flying insects, except the few for whose visits the plants specially lay themselves out. Nay, as if so many precautions were not enough, the mouth of the tube, above the stamens, is furthermore obstructed by five little valves, or scales, one being attached to the claw of each petal; and these scales can easily be craned over, like tiny walls, by the large and long proboscis of the bees or moths, but not by the little thieving flies against whose incursions the flowers are so anxious to guard themselves."—*Grant Allen*.\*

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\* Vignettes from Nature, II.



267. (1599.) *S. ALBA* Muhl. Snowy Campion.  
(*S. nivea* Otth.)  
Scarce. Taken on several occasions along the Vandalia and I. &  
St. L. Railways. June 4.
268. (1601.) *S. ANTIRRHINA* L. Sleepy Catchfly.  
Waste places in dry, sandy soil; frequent. April 20.
- 269.\* (1609a.) *S. REGIA* Sims. Royal Catchfly.  
Borders of prairies; rare.  
East of Prairieton. June 22, 1890.
270. (1611.) *S. STELLATA* (L.) Ait. f. Starry Campion.  
Shaded banks; scarce.  
Sides of canal near Five Mile Pond. Van. Railway. June 11.
271. (1612.) *S. VIRGINICA* L. Fire Pink. Catchfly.  
Ravines and borders of damp woods; scarce.  
Coal Creek. Grant. April 25.

129. *SAPONARIA* L.

272. (1625.) *S. OFFICINALIS* L. Soapwort. Bouncing Bet.  
Waste places in sandy soil; frequent. June 15.  
Very abundant along the old canal near Five-Mile Pond.

130. *ALSINE* L.(*Stellaria* L.)

- 273.\* (1637.) *A. LONGIFOLIA* (Muhl.) Britton. Long-leaved Stitchwort.  
(*Stellaria longifolia* Muhl.)  
Open woods in rather damp places; scarce. May 25.
274. (1638.) *A. LONGIPES* (Goldie) Coville. Long-stalked Stitchwort.  
(*Stellaria longipes* Goldie.)  
Moist prairies and borders of marshes; rare. May 12.  
Heckland. Marsh west of Beach's Woods near Van. Railway.
275. (1641.) *A. MEDIA* L. Common Chickweed.  
(*Stellaria media* Smith.)  
Rich, damp soil; frequent. March 20.  
Borders of marsh south of Fair Ground. Streets of Terre Haute.
276. (1642.) *A. PUBERA* (Michx.) Britton. Great Chickweed.  
(*Stellaria pubera* Michx.)  
Open woods in rich soil; common. April 5.

## 131. CERASTIUM L.

277. (1650.) C. LONGIPEDUNCULATUM Muhl. Nodding Mouse-ear Chickweed.

(*Cerastium nutans* Raf.)

Moist, grassy places; frequent. April 20.

278. (1652.) C. VISCOSUM L. Mouse-ear Chickweed.

Grassy banks and roadsides; frequent. April 20.

Sand Hill. Coal Creek.

Paler green and not so spreading as the next.

- 279.\* (1653.) C. VULGATUM L. Larger Mouse-ear Chickweed.

Open woods, meadows and waste places; common. April 28.

## 132. ARENARIA L.

- 280.\* (1671.) A. SERPYLLIFOLIA L. Thyme-leaved Sandwort.

Low, moist, sandy places; scarce. May 31.

Borders of Conover's and Five-Mile ponds.

Not before recorded from Indiana south of the sand dunes bordering Lake Michigan.

## NYMPHÆACEÆ. Water-Lily Family.

## 135. NELUMBO Adans.

- 281 (1687.) N. LUTEA (Willd.) Pers. Water Chinquapin. Yellow Nelumbo.

Ponds; scarce. June 20.

Previous to 1890 this was a common plant in the Goose and Five Mile ponds, the surfaces of which in late summer were extensively covered with the large peltate, circular, floating leaves often two and one-half to three and one-quarter feet in diameter. Since the total draining of the former and partial draining of the latter pond the plant has become almost exterminated in the county.

## 134. CASTALIA Salisb.

(*Nymphaea* Tourn.)

282. (1693.) C. TUBEROSA (Paine) Greene. White Water Lily.

(*Nymphaea reniformis* DC.)

Ponds; frequent. May 28.

Formerly very common at Goose Pond. Five-Mile Pond.

The flowers have a very distinct, agreeable odor, but the rootstocks are tuber-bearing.

## 135. NYMPHÆA L.

*(Nuphar Smith.)*

283. (1695.) N. ADVENA Soland. Yellow Pond Lily. Spatter-Dock.  
*(Nuphar advena Ait.)*

Ponds, ditches and stagnant pools; common. April 28.

## MAGNOLIACEÆ. Magnolia Family.

## 136. LIRIODENDRON L.

284. (1706.) L. TULIPIFERA L. Tulip Tree. Yellow Poplar

Open woods in rich soil; frequent. April 25.

Once abundant and the giant of the Indiana forests, reaching at times a height of 190 feet and a circumference of 25 feet.\* All the larger ones have long since disappeared before the axe of the lumberman, and in Vigo County individuals more than 60 feet high are scarce.

## ANONACEÆ Custard-Apple Family.

## 137. ASIMINA Adans.

285. (1707.) A. TRILOBA (L.) Dunal. Papaw.

Open woods, most common in rather low, rich soil. April 20.

The flowers expand a few days before the leaves appear. Those on the tips of branches are often a bright green instead of purplish red, as are those below. The fruit varies much in abundance, some years being very plentiful and again scarce. It is very rarely double, being united at stem end and by the skin at lower end. Two varieties of the fruit are readily distinguished, the pulp of one, when ripe, being whitish-yellow, and inferior in taste; of the other deep golden-yellow and very palatable.

## RANUNCULACEÆ. Crowfoot Family.

## 138. HYDRASTIS L.

286. (1708.) H. CANADENSIS L. Yellow Root. Orange Root. Golden Seal.

Hillsides and rich, wooded slopes; scarce.

Woods east of St. Mary's. Coal Creek. Ferrell's. April 25.

A valued medicinal plant.

## 139. CALTHA L.

287. (1711.) C. PALUSTRIS L. Marsh Marigold.

Swamps and marshes; common locally.

East of Sand Hill. Canal three miles south of T. H. March 26.

An early and showy spring flower.

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\*J. Schneck, Ind. Geol. Surv., VII, 1875, 512.

## 140. ISOPYRUM L.

288. (1715.) *I. BITERNATUM* (Raf.) T. & G. False Rue-anemone.  
Moist, open woods and shady places; frequent. April 2.  
Often mistaken for *Syndesmon thalictroides* (L.), but distinguished by having only five sepals, and by the small tubers on the root fibres.

## 141. ACTÆA L.

289. (1718.) *A. ALBA* (L.) Mill. White Baneberry.  
Thickets and dense woods; frequent.  
Ferrell's. Coal Creek, etc. April 28.

## 142. AQUILEGIA L.

290. (1726.) *A. CANADENSIS* L. Wild Columbine.  
Dry, gravelly soil and rocky hillsides; scarce. April 28.  
Coal Creek. Sides of canal near Ft. Harrison, and Five-Mile Pond.

## 143. DELPHINIUM L.

291. (1730.) *D. CONSOLIDA* L. Field Larkspur.  
Roadsides and old fields; scarce. May 25.  
Found two or three different seasons along the Vandalia railway.
292. (1731.) *D. TRICORNE* Michx. Dwarf Larkspur.  
Open woods in rich soil; common. April 13.  
Varies much in size of plant, and in color of flower from white to deep blue.

## 144. ANEMONE L.

- 293.\* (1736.) *A. CANADENSIS* L. Pennsylvania Anemone.  
(*A. pennsylvanica* L.)  
Dry, gravelly soil; scarce. May 21.  
Old canal near Conover's pond. I. & St. L. Railway on west side of Wabash River.
294. (1737.) *A. CAROLINIANA* Walt. Carolina Anemone.  
Borders of prairies and dry, open hillside woods; rare. April 15, 1894.  
Collected by Miss Nora Arnold.\*  
The first record for the State.

\* In a private letter Miss Arnold states: "They grow abundantly on the hillside  $5\frac{1}{2}$  miles north of Terre Haute, along the Durkey's Ferry road, on the east side of the river. In patches or spots the ground when they bloom is white with them. They have occurred there within my memory for twelve or thirteen years."

- 295.\* (1744.) *A. VIRGINIANA* L. Virginia Anemone.

Loose, rich soil; rather common. May 14.

Banks of canal and along the railways.\*

145. *HEPATICA* Scop.

296. (1745.) *H. ACUTA* (Pursh) Britton. Liverleaf. Sharp-lobed Hepatica.

(*H. acutiloba* D C.)

Sides of ravines and dry open woods; common. March 10.

Five-lobed leaves are occasionally found, and the sepals vary exceedingly in color and number.

146. *SYNDESMON* Hoffmg.

(*Anemonella* Spach.)

297. (1747.) *S. THALICTROIDES* (L) Hoffmg. Rue-anemone.

(*Anemonella thalictroides* Spach.)

Open, upland woods; common. March 15.

147. *CLEMATIS* L.

298. (1755.) *C. SIMSII* Sweet.

(*C. pitcheri* T. & G.)

Banks of railways (Vandalia and E. & T. H.), and old canal near

Five-mile Pond; scarce. June 1.

The plumose tails of the fruit very noticeable in early autumn.

299. (1756.) *C. VIORNA* L. Leather Flower.

Dry, gravelly banks; rare. May 25.

Alongside of Van. Railway, near Beach's woods.

300. (1757.) *C. VIRGINIANA* L. Virgin's Bower. White Clematis.

Borders of thickets, especially along streams and in low places; frequent. June 20.

Coal Creek. Honey Creek. Ferrell's.

148. *RANUNCULUS* L.

301. (1761.) *R. ABORTIVUS* L. Small-Flowered Crowfoot.

Open woods in damp soil; common. April 10.

- 302.\* (1765.) *R. DELPHINIFOLIUS* Torr. Yellow Water Crowfoot.

(*R. multifidus* Pursh.)

Ponds; frequent. April 21.

\**A. nemorosa* L is noted as "common" in several of the local lists of the State, and is given without comment in the State Catalogue, yet I have failed to find a specimen in either Monroe or Vigo counties. *Synthesm thalictroides* (L), to which it bears a close general resemblance, is doubtless often mistaken for it.

303. (1766.) *R. FASCICULARIS* Muhl. Early Buttercup.  
Hillsides in sandy soil; frequent. April 7.  
East of Five-Mile Pond. Sand Hill.
304. (1772) *R. MICRANTHUS* Nutt.  
(*R. abortivus micranthus* Gray.)  
Pastures and roadsides in dry or sandy soil; frequent. April 10.  
Taken in fruit on April 17.
305. (1776.) *R. OBTUSIUSCULUS* Raf. Water Plantain. Spearwort.  
(*R. ambigens* Watson.)  
Borders of ponds; rare.  
Noted only at Goose Pond. June 22, 1890.  
Taken before in Indiana only in Noble County.
306. (1783.) *R. PURSHII* Richards.  
(*R. multifidus terrestris* Gray.)  
Noted only along the margins of Five-Mile Pond. April 21.  
The first record for the State.
307. (1786.) *R. RECURVATUS* Poir. Hooked Crowfoot.  
Open woods; common. April 20.  
The petals often six, and the root leaves larger than in other species  
of the genus; sometimes ternately divided.
308. (1790.) *R. SCELERATUS* L. Cursed Crowfoot.  
Borders of ditches and marshes; scarce. June 1.  
South of Fair Ground. Heckland.
309. (1791.) *R. SEPTENTRIONALIS* Poir. Creeping Buttercup.  
Low, wet meadows; river bottoms, margins of ponds, ditches, etc.  
Common and very variable. April 18.

149. *BATRACHIUM* S. F. Gray.

- 310.\* (1794.) *B. TRICHOPHYLLUM* (Chaix) Bossch. White Water-  
Crowfoot.  
(*Ranunculus aquatilis* var. *trichophyllus* Gray.)  
Ponds; frequent. April 20.  
Old Canal south of Spring Hill. Five-Mile Pond. Goose Pond.

150. *THALICTRUM* L.

311. (1801.) *T. DIOICUM* L. Early Meadow-rue.  
Wooded hillsides and loose, rich soil in waste places; frequent.  
April 8.  
Honey Creek. Van. Railway.

312. (1802.) *T. POLYGAMUM* Muhl. Tall Meadow-rue.  
 Borders of ditches and swampy places; scarce.  
 Heckland. June 18.
- 313.\* (1803.) *T. PURPURASCENS* L. Purplish Meadow-rue.  
 Dry upland soil and margins of prairies; frequent.  
 Van. Railway. Heckland. E. & T. H. Railway. May 16.

## BERBERIDACEÆ. Barberry Family.

151. *PODOPHYLLUM* L.

314. (1806.) *P. PELTATUM* L. May Apple. Mandrake.  
 Open woods in rich soil; abundant. April 27.

152. *JEFFERSONIA* Bart.

315. (1807.) *J. DIPHYLLA* (L.) Pers. Twin-leaf. Rheumatism Root.  
 Rich, sloping hillsides; scarce.  
 Coal Creek. Grant. April 16.  
 The leaflets often five to seven-lobed.

153. *CAULOPHYLLUM* Michx.

- 316.\* (1809.) *C. THALICTROIDES* (L.) Michx. Blue Cohosh. Papoose Root.  
 Wooded hillsides, usually near the bottom, in rich, moist soil;  
 scarce.  
 Honey Creek. Coal Creek. April 11.

## MENISPERMACEÆ. Moonseed Family.

154. *MENISPERMUM* L.

317. (1813.) *M. CANADENSE* L. Moonseed.  
 Borders of low-ground thickets and fence rows; frequent. May 20.  
 A handsome, slender, woody climber, with rounded peltate leaves,  
 small panicles of white, inconspicuous flowers, and fruit in early autumn  
 resembling wild grapes in compact, rounded bunches.

## LAURACEÆ. Sassafras Family.

155. *SASSAFRAS* Nees and Eberm.

318. (1819.) *S. SASSAFRAS* (L.) Karst. Sassafras.  
 (*S. officinale* Nees.)  
 Borders of rich woods and old fields; frequent. April 10.

## 156. BENZOIN Fabric.

*(Lindera Thunb.)*

319. (1821.) B. BENZOIN (L.) Coulter. Spice-bush. Benjamin-bush.  
*(Lindera benzoin Blume.)*

Dense, moist woods and sides of ravines; frequent.

Woods near Broadhurst's mine. Ferrell's, etc. April 5.

## PAPAVERACEÆ. Poppy Family.

## 157. SANGUINARIA L.

320. (1823.) S. CANADENSIS L. Blood-root. Coon-root.  
 Open woods in rich soil; common. March 17.

## 158. STYLOPHORUM Nutt.

321. (1824.) S. DIPHYLLUM (Michx.) Nutt. Celandine Poppy.  
 Moist, rich soil near the foot of wooded slopes or in ravines; scarce.  
 Honey Creek. Coal Creek. April 17.

## 159. BICUCULLA Adans.

*(Dicentra Borkh.)*

- 322.\* (1834.) B. CANADENSIS (Goldie) Millsp. Squirrel Corn.  
*(Dicentra canadensis DC.)*  
 Wooded slopes and sides of ravines; not so common as the next  
 species and blooming about 10 days later.  
 Woods east of St. Mary's. Coal Creek. Southeast of Hunt's  
 Rosary. April 14.

- 323.\* (1835.) B. CUCULLARIA (L.) Millsp. Dutchman's Breeches.  
*(Dicentra cucullaria DC.)*  
 Open woods in moist, rich soil; frequent. April 5.

## 160. CAPNOIDES Adans.

*(Corydalis Vent.)*

- 324.\* (1841.) C. FLAVULUM (Raf.) Kuntze. Yellow Corydalis.  
*(Corydalis flavula Raf.)*  
 Open woods in rich, sandy soil; scarce.  
 Sand Hill. Southeast of Hunt's. Beach's woods. April 13.



## CRUCIFERÆ. Mustard Family.

## 161. LEPIDIUM L.

325. (1851.) *L. INTERMEDIUM* A. Gray. Wild Pepper-grass.

Waste places in dry or gravelly soil; common. May 10.

*L. intermedium* has fewer, narrower and more entire leaves, and the racemes are longer and more spreading than in *L. virginicum* L. In the latter the flowers have a tendency to agglomeration, and the leaves are narrowly spatulate, rather than linear, with the edges more incised.

The first record for the State, this species and the next not having been distinguished by previous cataloguers.

326. (1854.) *L. VIRGINICUM* L. Wild Pepper-grass. Tongue-grass.

Roadsides and fields; common. May 1 to November 15.

## 162. SISYMBRIUM L.

327. (1863.) *S. OFFICINALE* (L.) Scop. Hedge Mustard.

Waste places, old fields, roadsides, etc.; common. May 24.

## 163. BRASSICA L.

328. (1867.) *B. NIGRA* (L.) Koch. Black Mustard.

Roadsides and waste places; frequent. July 1.

329. (1868.) *B. SINAPISTRUM* Boiss. Field Mustard. Charlock.

Old fields; not common.

Near Ft. Harrison. May 21.

## 164. IODANTHUS T. and G.

(*Thelypodium* Endl.)

330. (1874.) *I. PINNATIFIDUS* (Michx.) Prantl. False Rocket.

(*Thelypodium pinnatifidum* S. Wats.)

Moist hillside thickets; scarce.

I. & St. L. R. R. Southeast of Hunt's. Coal Creek. May 10.

## 165. RORIPA Scop.

(*Nasturtium* R. Br.)

- 331.\* (1875.) *R. AMERICANA* (A. Gray) Britton. Lake Cress.

(*Nasturtium lacustre* Gray.)

Ponds; frequent.

Conover's and Five-Mile ponds. Goose Pond. May 22.

332. (1876.) R. ARMORACIA (L.) A. S. Hitchcock. Horse-radish.  
(*Nasturtium armoracia* Fries.)  
Moist soil; escaped from cultivation; scarce.  
Southeast of Hunt's. Grant. May 10.
333. (1879.) R. NASTURTIIUM (L.) Rusby. True Water Cress.  
(*Nasturtium officinale* R. Br.)  
Brooks and ditches; probably introduced; not common.  
Sand Hill. Ditch near Five-Mile Pond. April 23.
334. (1881.) R. PALUSTRIS (L.) Bess. Marsh Cress.  
(*Nasturtium palustre* DC.)  
Borders of ponds in shallow water; frequent. May 10.
- 335.\* (1882.) R. SESSILIFLORA (Nutt.) A. S. Hitchcock. Pond Cress.  
(*Nasturtium sessiliflorum* Nutt.)  
Mucky margins of ponds; frequent.  
South of Fair Ground. Conover's and Five-Mile ponds. April 30.  
Though mentioned in several of the lists of Indiana plants, the range  
is given in Gray's Manual as "W. Ill. to E. Kan. and southward."

## 166. CARDAMINE L.

336. (1888.) C. BULBOSA (Schreb.) B. S. P. Spring Cress.  
(*C. rhomboidea* DC.)  
Wet, shady soil; frequent.  
Heckland. Ferrell's. Southeast of Hunt's. April 13.
337. (1890.) C. DOUGLASSI (Torr.) Britton. Purple Spring Cress.  
(*C. rhomboidea purpurea* Torr.)  
Open woods in rather dry soil; common. February 9.  
The first Crucifer to bloom in spring.
338. (1892.) C. HIRSUTA L. Small Bitter Cress.  
Low wet places; frequent.  
South of Fair Ground. Sand Hill, etc. April 2.

## 167. DENTARIA L.

339. (1899.) D. LACINIATA Muhl. Toothwort. Pepper-root.  
Moist open woods; common. March 22.  
The leaves variable in form and the flowers in color.

## 168. BURSA Weber.

*(Capsella Medic.)*

340. (1914.) B. BURSA-PASTORIS (L.) Weber. Shepherd's Purse.

*(Capsella bursa-pastoris Medic.)*

Waste places; abundant.

In flower March 10 and as late as November 25.

## 169. DRABA L.

- 341.\* (1919.) D. CAROLINIANA Walt. Carolina Whitlow Grass.

Sandy soil in open fields and meadows; frequent.

Hillside south of Conover's pond. Canal at Ft. Harrison. March 14.

Rising less than three inches above the ground, the little *Draba* blooms on the first warm days of March and its seeds are ripened by mid-April. Its work is, therefore, over before that of many plants is begun. It succeeds in the struggle for existence by being first upon the scene of action. Drinking long and deep of the bright spring sunshine, it soon gives way to its competitors, but not before its life's duty, the perpetuation of its kind, has been fulfilled.

## 170. DESCURAINIA Webb and Barth.

- 342.\* (1930.) D. PINNATA (Walt.) Britton. Tansy Mustard.

*(Sisymbrium canescens Nutt.)*

Gravelly soil; frequent.

E. &amp; T. H. and Vandalia Railways. Sides of canal. April 20.

## 171. ARABIS L.

- 343.\* (1934.) A. CANADENSIS L. Sickie-pod.

Sandy or gravelly soil; rare.

Side hill near the Seventh Street bridge across Lost Creek. June 4.

- 344.\* (1936.) A. DENTATA T. and G. Toothed Rock Cress.

Taken but once, in McKeen's woods west of Sand Hill. May 3, 1891.

345. (1938.) A. HIRSUTA (L.) Scop. Hairy Rock Cress.

Rocky hillsides or dry, gravelly soil; rare.

Found but once, May 21, 1891, on sides of canal above Conover's pond. This is the first published record for the State, though the plant has been taken by the writer in Monroe and Montgomery Counties.

346. (1940.) *A. LAEVIGATA* (Muhl.) Poir. Smooth Rock Cress.  
Sides of ravines in dry soil; frequent.  
Grant. Honey Creek. Coal Creek. April 10.

172. *ERYSIMUM* L.

347. (1944.) *E. ASPERUM* DC. Western Wallflower.  
Gravelly banks; scarce.  
Sides of canal near Ft. Harrison. I. & St. L. R. R. May 22.

## CAPPARIDACEÆ. Caper Family.

173. *POLANISIA* Raf.

348. (1957.) *P. GRAVEOLENS* Raf.  
Dry, gravelly soil; scarce.  
Banks of canal. I. & St. L. R. R. June 17.

## CRASSULACEÆ. Orpine Family.

174. *SEDUM* L.

349. (1977.) *S. TELEPHIODES* Michx.  
Rocky hillsides; rare.  
Noted only at Coal Creek, where it was collected by Dr. B. W.  
Evermann in 1889. April 30.
350. (1979.) *S. TERNATUM* Michx. Stone-crop.  
Sides of ravines in damp places; scarce.  
Grant. Honey Creek. Coal Creek. May 12.

175. *PENTHORUM* L.

- 351.\* (1983.) *P. SEDOIDES* L. Ditch Stone-crop.  
Low, wet places; common. July 15.

## SAXIFRAGACEÆ. Saxifrage Family.

176. *SAXIFRAGA* L.

- 352.\* (2000.) *S. PENNSYLVANICA* L. Swamp Saxifrage.  
Damp woods and prairies; scarce.  
Heckland. May 25.

## 177. HEUCHERA L.

353. (2006.) *H. AMERICANA* L. Common Alum-root.  
Ravines and rocky hillsides; scarce. April 15.  
Coal Creek. Heckland.
- 354\*. (2007.) *H. HISPIDA* Pursh. Hispid Alum-root.  
Dense, damp woods; scarce. June 8.  
Noted only at Heckland, and first recorded in the State from there.  
(See Proc. Ind. Acad. Science, 1894, 105.) The only other  
known station in Indiana is Tolleston, Lake County. (*Id.*, 1895,  
187.)

## 178. MITELLA L.

355. (2012.) *M. DIPHYLLA* L. Mitre-wort. Bishop's Cap.  
Wooded hillsides and ravines; scarce. April 20.  
Coal Creek. Honey Creek.  
A delicate and handsome spring flower; the slender racemes often 10  
to 12 inches in length.

## 179. HYDRANGEA L.

356. (2025.) *H. ABORESCENS* L. Wild Hydrangea.  
Sides of ravines and rocky banks; frequent. June 17.  
One specimen, having only sterile, radiant flowers, was taken July 8,  
1894.

## 180. RIBES L.

357. (2032.) *R. CYNOSBATI* L. Prickly Wild Gooseberry.  
Wooded hillsides and banks of streams; frequent. April 20.
- 358.\* (2034.) *R. GRACILE* Michx. Missouri Gooseberry.  
Dry, upland woods; frequent.  
Sand Hill. Honey Creek Hills. The only known locality in the  
State.\* April 18.
359. (2037.) *R. OXYACANTHOIDES* L. Smooth Wild Gooseberry.  
Damp, upland woods; scarce.  
Sand Hill. (Auct. B. W. Evermann.) April 20, 1889.

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\*See Coulter, Stanley, in Proc. Ind. Acad. Sci., 1894, 106.

## HAMAMELIDACEÆ. Witch-Hazel Family.

## 181. HAMAMELIS L.

## 360. (2044.) H. VIRGINIANA L. Witch-Hazel.

Damp, upland woods; scarce.

Noted only in woods in S. W.  $\frac{1}{4}$  Sec. 6, Pierson Tp. October 10.

"The witch-hazel is an extremely interesting plant, October and November child, and yet reminds me of the very earliest spring. Its blossoms smell like the spring, like the willow catkins. By their color, as well as fragrance, they belong to the saffron dawn of the year, suggesting among all these signs of autumn, falling leaves and frost, that the life of nature by which she eternally flourishes is untouched. It stands here in the shadow on the side of the hill, while the sunlight from over the top of the hill lights up its topmost sprays and yellow blossoms. Its spray, so jointed and angular, is not to be mistaken for any other. I lie on my back with joy under its boughs. While its leaves fall, its blossoms spring. The autumn, then, is indeed a spring."\*--*Thoreau*.

## 182. LIQUIDAMBAR L.

## 361. (2045.) L. STYRACIFLUA L. Sweet Gum. Bilsted.

Low, damp soil; frequent along the Wabash River and borders of ponds and sloughs, especially in the southwestern part of the county. April 8.

## PLATANACEÆ. Plane-tree Family.

## 183. PLATANUS L.

## 362. (2046.) P. OCCIDENTALIS L. Sycamore. Buttonwood.

Low, moist, usually alluvial soil; common. April 18.

One of the largest of our native trees, sometimes reaching a height of 176 feet and a diameter† of  $10\frac{1}{2}$  feet. The leaves of young specimens, growing in favorable localities, are also very large, one having been measured which was  $19 \times 15\frac{1}{2}$  inches. Many large sycamores are still to be found in the forests skirting the Wabash in the southwestern part of the county.

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\*Autumn, p. 87.

†Dr. J. Schneck, Ind. Geol. Surv., 1875, 512.

## ROSACEÆ. Rose Family.

## 184. SPIRÆA L.

363. (2049.) *S. SALICIFOLIA* L. Common Meadow Sweet.

Margins of wet prairies; not common. June 15.

Heckland.

A form with pods included in calyx lobes is found sparingly.

## 185. PYRUS L.

364. (2057.) *P. CORONARIA* L. American Crab Apple.

Open, upland woods and fence rows; frequent. May 5.

Side of canal above Conover's Pond. Honey Creek hills, etc.

Noted for the beauty of its flowers and the sweetness of their perfume.

365. (2059.) *P. MALUS* L. Wild Apple.

Escaped and growing spontaneously in old fields; frequent.

"Here on this rugged and woody hillside has grown an apple tree, not planted by man, no relic of a former orchard, but a natural growth, like the pines and oaks. The owner knows nothing of it. The day was not observed when it first blossomed, nor when it first bore fruit, unless by the chickadee. There was no dancing on the green beneath it in its honor, and now there is no hand to pluck its fruit—which is only gnawed by squirrels, as I perceive. Who knows but this chance wild fruit, planted by a cow or bird on some remote and rocky hillside, where it is as yet unobserved by man, may be the choicest of all its kind, and foreign potentates shall hear of it, and royal societies seek to propagate it, though the virtues of the, perhaps, truly crabbed owner of the soil may never be heard of—at least, beyond the limits of his village? It was thus the Porter and the Baldwin grew.

"Every wild apple shrub excites our expectation thus, somewhat as every wild child. It is, perhaps, a prince in disguise. What a lesson to man! So are human beings, referred to the highest standard, the celestial fruit which they suggest and aspire to bear, browsed on by fate; and only the most persistent and strongest genius defends itself and prevails, sends a tender scion upward at last, and drops its perfect fruit on the ungrateful earth. Poets and philosophers and statesmen thus spring up in the country pastures, and outlast the hosts of unoriginal men."\*—*Thoreau*.

\* The Succession of Forest Trees and Wild Apples, pp. 63, 69.

## 186. ARONIA Pers.

- 366.\* (2063.) A. ARBUTIFOLIA (L.) Ell. Choke-berry.  
(*Pyrus arbutifolia* L.)

Damp upland woods; rare.  
Noted only at Heckland. May 22.

## 187. AMELANCHIER Medic.

367. (2066.) A. BOTRYAPIUM (L. f.) DC. Service Berry. Shad Bush.

(*A. canadensis oblongifolia* T. and G.)

Borders of damp woods; scarce.  
Side of National Road near Sugar Creek. April 21.

## 188. CRATAEGUS L.

368. (2072.) C. COCCINEA L. Scarlet-fruited Hawthorn.

Borders of dry, upland woods; frequent.

Sand Hill. Coal Creek. Honey Creek, etc. May 1.

The leaves of this species are thinner and more sharply toothed than any other; while the fruit is small and more bitter than any except that of *C. tomentosa* L.

369. (2075.) C. CRUS GALLI L. Cockspur Thorn.

Borders of upland thickets; frequent.

Heckland. Coal Creek. Honey Creek. May 6.

Readily known by its small, thick, shining, obovate leaves, and abundant globose red fruit.

370. (2079.) C. MOLLIS (T. & G.) Scheele. Sweet-fruited Red Haw.

(*C. coccinea mollis* T. and G.)

Open hillside woods in rich soil, and borders of streams; frequent.  
April 20.

Leaves thicker and broader, and fruit rather larger, ripening earlier, and more agreeable to the taste, than that of the other species found in the county.



- 371.\* (2081.) *C. PUNCTATA* Jacq.<sup>3</sup>  $\frac{1}{2}$  Yellow-fruited Hawthorn. Hog Haw.

Open, wooded slopes; scarce. May 2.

On the hillside north of Highland Lawn Cemetery a single specimen, bearing greenish-yellow fruit fully one inch broad, was noted October 16, 1896.

372. (2085.) *C. TOMENTOSA* L. Black Hawthorn. Pear Thorn.

Low, rich ground along streams; often forming thickets; common.

May 10.

Form of leaves very variable; flowers blooming later and more ill scented, and the red globose fruit more bitter than that of any other of our species.

#### 189. RUBUS L.

373. (2090.) *R. BAILEYANUS* Britton. Trailing Blackberry.

(*R. villosus humifusus* T. & G.)

Borders of woods, especially in sandy soil; frequent. May 19.

- 374.\* (2091.) *R. CANADENSIS* L. Low Blackberry. Dewberry.

Old upland fields and roadsides; frequent. May 13.

South of St. Mary's. Near Glen, etc.

375. (2096.) *R. HISPIDUS* L. Running Swamp Blackberry.

Damp, flat woods; scarce.

Heckland. Beach's woods, close to Van. railroad.

376. (2100.) *R. OCCIDENTALIS* L. Black Raspberry. Thimble-berry.

Borders of upland thickets and fence rows; common. May 27.

377. (2106.) *R. VILLOSUS* Ait. Common High Blackberry.

Open woods, fence rows, etc.; common. May 27.

#### 190. FRAGARIA L.

378. (2112.) *F. VESCA* L. Wood Strawberry.

Dry or gravelly soil; common. April 21.

Along canal and railways.

379. (2113.) *F. VIRGINIANA* Duchesne. Wild Strawberry.

Moist wooded banks; scarce.

Southeast of Hunt's. Roadside near Glen.

#### 191. POTENTILLA L.

380. (2120.) *P. CANADENSIS* L. Common Cinque-foil. Five-finger.

Old fields and along roadsides in poor or "worn out" soil; common.

May 12.

381. (2127.) *P. MONSPELIENSIS* L. Cinque-foil.  
(*P. norvegica* L.)

Borders of open dry woods; scarce.  
Sand Hill. Coal Creek. June 15.

192. *GEUM* L.

382. (2141.) *G. CANADENSE* Jacq. White Avens.  
(*G. album* Gmel.)

Borders of woods and thickets; frequent. May 2.

- 383 \* (2144.) *G. MACROPHYLLUM* Willd.

Borders of open, rich woods; rare.

McKeen's woods south of the Fair Ground. June 26.

The first record for the State.

384. (2149.) *G. VERNUM* (Raf.) T. and G. Spring Avens.  
Thickets and fence rows; common. April 21.

193. *ULMARIA* Hill.

385. (2155.) *U. RUBRA* Hill. Queen of the Prairie.  
(*Spiraea lobata* Gronov.)

Damp meadows and prairies; scarce.

Rather common in the prairies north of Heckland. June 30, 1891.

One of the most handsome of the prairie plants, now so rapidly disappearing.

194. *AGRIMONIA* L.

386. (2160.) *A. PARVIFLORA* Soland. Small-flowered Agrimony.  
Along gravelly banks and borders of thickets; scarce. May 25.

387. (2161.) *A. STRICTA* Michx. Common Agrimony.  
(*A. eupatoria* L.)

Borders of upland woods and fence rows; common. May 12.

195. *SANGUISORBA* L.

(*Poterium* L.)

- 388.\* (2162.) *S. CANADENSIS* L. Canadian Burnet.  
(*Poterium canadense* Benth. & Hook.)

Borders of ditches, and prairies in moist soil; scarce.

Heckland and side of T. H. & L. Railway north of Otter Creek  
Junction. In flower from August 10 to October 20.

The first record for the State.

196. *ROSAL* L.

389. (2168.) *R. CAROLINA* L. Swamp Rose.  
Borders of swamps and ditches; growing in dense clumps; common.  
June 1.
- 390.\* (2169.) *R. HUMILIS* Marsh. Dwarf Wild Rose.  
Dry, usually gravelly or sandy soil; frequent.  
Along railways, especially T. H. & L. near Heckland. June 1.
391. (2172.) *R. RUBIGINOSA* L. Sweet Brier. Eglantine.  
Waste places and roadsides; frequent.  
Old canal. Roadsides near St. Mary's, etc. May 26.  
"The seed vessel of the sweet brier is a very beautiful, glossy, elliptical fruit. This shrub, what with the fragrance of its leaves, its blossoms, and its fruit, is thrice crowned."—*Thoreau*.
392. (2174.) *R. SETIGERA* Michx. Climbing or Prairie Rose.  
Borders of prairies and thickets; scarce.  
Heckland. June 13.  
Our most handsome species; often cultivated.

197. *PRUNUS* L.

393. (2177.) *P. AMERICANA* Marsh. Wild Yellow or Red Plum.  
Banks of streams and borders of moist, upland thickets; frequent, especially in southern half of county. April 21.
394. (2190.) *P. SEROTINA* Ehrh. Wild Black Cherry.  
Rich, upland woods, fence-rows, etc.; common. May 10.

## LEGUMINOSÆ. Pulse Family.

198. *CERCIS* L.

395. (2201.) *C. CANADENSIS* L. Red-bud. Judas Tree.  
Open woods and borders of thickets in dry, rich soil; common  
April 14.

199. *CASSIA* L.

396. (2202.) *C. CHAMÆCRISTA* L. Partridge Pea.  
Sandy banks of old canal; common. April 30.
397. (2204.) *C. MARYLANDICA* L. Wild Senna.  
Sand or gravel bars and low, waste grounds; frequent. August 20.

## 200. GLEDITSCHIA L.

398. (2209.) G. TRIACANTHOS L. Honey Locust. Thorn Tree.

Open woodlands and fence-rows; common. May 27.

Specimens twenty feet high and less are very thorny; tall, old trees are often nearly destitute of thorns.

## 201. GYMNOCLADUS Lam.

399. (2210.) G. DIOICUS (L.) Koch. Kentucky Coffee Tree.

(*G. canadensis* Lam.)

Rich open upland or river terrace woods; frequent. May 26.

Reaches a diameter of 18 to 20 inches. The large pods and beans are often objects of special interest to persons who are unacquainted with the tree.

## 202. BAPTISIA Vent.

400. (2219.) B. LEUCANTHA T. and G. White False Indigo.

Moist prairies; frequent.

Common at Heckland. Sides of railway above Otter Creek Junction. S. W.  $\frac{1}{4}$  of S. E.  $\frac{1}{4}$ , Sec. 6, Pierson Township. May 20.

The pods, when mature, are variable in length, and obliqueness of base.

## 203. MEDICAGO L.

- 401.\* (2236) M. LUPULINA L. Black Medick. Nonesuch.

Waste places along railways; scarce.

Sides of Vandalia R. R. E. & T. H. Railway south of the blast furnace. May 20.

## 204. MELILOTUS Juss.

402. (2238.) M. ALBA Lam. White Sweet Clover.

Dry gravelly soil in waste grounds; frequent.

Sides of canal. Crossing of I. & St. L. Railway and St. Mary's Road. May 27.

Sometimes reaches a height of six feet and forms dense thickets, which, when the plants are old, are difficult to penetrate.

403. (2239.) M. OFFICINALIS (L.) Lam. Yellow Sweet Clover.

Dry or alluvial soil; scarce.

Side of Vandalia Railway, one mile east of Terre Haute. June 12.

## 205. TRIFOLIUM L.

404. (2248.) T. PRATENSE L. Red Clover.

Roadsides and meadows; abundant. May 14.

A white-flowered form occurs sparingly.

405. (2250.) *T. REFLEXUM* L. Buffalo Clover.

Dry, sandy hillsides or prairies; rare.

Hillside east of Five-Mile Pond. May 28.

406. (2251.) *T. REPENS* L. White Clover.

Fields and roadsides; common. May 10.

206. *PSORALEA* L.

- 407.\* (2265.) *P. ONOBRYCHIS* Nutt.

Moist soil along railways; frequent.

Side of T. H. & L. near Heckland. E. & T. H. near Spring Hill.

June 8.

- 408.\* (2266) *P. PEDUNCULATA* (Mill.) Vail.

(*P. melilotoides* Michx.)

Dry, sandy soil; frequent.

Common along railway near Heckland. June 8.

207. *AMORPHA* L.

- 409.\* (2269.) *A. CANESCENS* Pursh. Lead-plant. Wild Tea.

Sandy hillsides and prairies; scarce.

Near Five-Mile Pond. June 17.

Its presence was formerly supposed to indicate deposits of lead ore, whence one of the common names.

410. (2270.) *A. FRUTICOSA* L. False Indigo. River Locust.

Sandy or gravelly banks; frequent.

Along the old canal, both north and south of Terre Haute.

208. *KUHNISTERA* Lam.

(*Petalostemon* Michx.)

411. (2276.) *K. CANDIDA* (Willd.) Kuntze. Prairie-clover.

(*Petalostemon candidus* Michx.)

Dry prairie soil; scarce.

Hillside near Five-Mile Pond. Vandalia Railway near gravel pit, etc. June 27.

- 412.\* (2280.) *K. PURPUREA* (Vent.) MacM. Prairie-clover.

(*Petalostemon violaceus* Michx.)

With the above, but more common. June 27.

## 209. CRACCA L.

*(Tephrosia Pers.)*

413. (2286.) C. VIRGINIANA L. Goat's Rue. Catgut. Hoary Pea.  
*(Tephrosia virginiana Pers.)*

Sandy hillsides; scarce.

Near Five-Mile Pond. May 15.

## 210. ROBINIA L.

414. (2289.) R. PSEUDACACIA L. Black Locust. False Acacia.

Naturalized; dry or sandy upland soil; frequent.

Beach's woods. Sides of canal, etc. May 12.

## 211. MEIBOMIA Adans.

*(Desmodium Desv.)*

415. (2336.) M. BRACTEOSA (Michx.) Kuntze. Tick Trefoil.

*(Desmodium cuspidatum Torr. & Gray.)*

Damp thickets and borders of prairies; scarce.

Heckland. Ferrell's. July 1.

416. (2337.) M. CANESCENS (L.) Kuntze. Seed Ticks.

*(Desmodium canescens DC.)*

Borders of woods and thickets in rich soil; common.

417. (2338.) M. CANADENSIS (L.) Kuntze.

*(Desmodium canadense DC.)*

Moist open woods and copses; frequent. July 1.

418. (2340.) M. DILLENII (Darl.) Kuntze.

*(Desmodium dillenii Darl.)*

Dry, open woods; frequent.

Coal Creek. Southeast of Hunt's. Honey Creek.

419. (2341.) M. GLABELLA (Michx.) Kuntze.

*(Desmodium humifusum Beck.)*

Sandy soil; frequent.

Sides of canal near Five-Mile Pond. Roadside near Heckland.

June 15.

420. (2342.) M. GRANDIFLORA (Walt.) Kuntze.

*(Desmodium acuminatum DC.)*

Rich, moist woods; frequent.

East of St. Mary's. Ferrell's. June 15.

421. (2346.) M. MARYLANDICA (L.) Kuntze.

*(Desmodium marilandicum Boott.)*

Damp thickets and woodlands; scarce.

Heckland.

422. (2347.) *M. NUDIFLORA* (L.) Kuntze. Tick Trefoil.  
(*Desmodium nudiflorum* DC.)  
Dry, open woods; frequent.  
Coal Creek. Beach's. June 5.
423. (2356.) *M. ROTUNDIFOLIA* (Michx.) Kuntze. Round-leaved  
Tick Trefoil.  
(*Desmidium rotundifolium* DC.)  
Dry, upland, wooded hillsides; scarce.  
Coal Creek. Grant. Hipple's Coal-mine Woods. June 20.
424. (2357.) *M. SESSILIFOLIA* (Torr.) Kuntze.  
(*Desmodium sessilifolium* T. and G.)  
Frequent in dry, sandy soil.  
Side of canal. Five-Mile Pond. Van. R. R. Beach's Woods.  
June 2.

212. *LESPEDeza* Michx.

425. (2361.) *L. ANGUSTIFOLIA* (Pursh.) Ell.  
Dry prairie; scarce.  
Heckland, by side of T. H. & L. R. R. August 18.  
The first record for the State.
426. (2362.) *L. CAPITATA* Michx.  
Prairies and sandy soil; frequent.  
Hillside near Five-mile Pond. Heckland. Borders of canal, both  
north and south of Terre Haute, etc. August 10.
427. (2365.) *L. FRUTESCENS* (L.) Britton.  
(*L. reticulata* Pers.)  
Sandy soil, margins of prairies, etc.; frequent.  
Hillside near Five-mile pond. Heckland. Hipple's Coal-mine  
woods. August 5.
428. (2370.) *L. PROCUMBENS* Michx. Trailing Bush Clover.  
Dry sandy soil; not common.  
Bed of canal near Fort Harrison. Heckland. July 20.
429. (2375.) *L. VIOLACEA* (L.) Pers.  
Dry upland woods; frequent.  
Coal Creek. Heckland. Hipple's Coal-mine woods. July 23.

213. *LATHYRUS* L.

430. (2389.) *L. MYRTIFOLIUS* Muhl.  
(*L. palustris myrtifolius* Gray.)  
Moist banks; scarce.  
Sides of T. H. & L. R. R., below Heckland. June 1.

- 431.\* (2392.) *L. PALUSTRIS* L. Marsh Vetchling.

Borders of ditches and ponds; scarce.

Ditch side, near station of Heckland. Goose Pond. May 17.

214. *FALCATA* Gmel.

(*Amphicarpæa* Ell.)

432. (2397.) *F. COMOSA* (L.) Kuntze. Hog Peanut.

(*Amphicarpæa monoicæa* Nutt.)

Damp woodlands in rich soil; common. July 25.

Leaflets never more than two inches in length; pods, two to five, seven-eighths of an inch long, borne on a short rachis; seeds, three mm. in length.

433. (2399.) *F. PITCHERI* (T. and G.) Kuntze. Large-leaved Hog Peanut.

(*A. pitcheri* T. and G.)

Hillside thickets in damp rich soil; scarce.

Coal Creek.

Leaflets much larger than in *F. comosa* (L.), the blade often more than three inches long; pods, ten or more, 1½ inches long, borne on a long hairy rachis; seeds, 5 mm. in length.

The first record for the State.

215. *APIOS* Moench.

- 434.\* (2399.) *A. APIOS* (L.) MacM. Ground Nut.

(*A. tuberosa* Moench.)

Borders of moist woods and marshes; scarce.

Heckland. Ferrell's. Goose Pond. August 15.

216. *PHASEOLUS* L.

(*Strophostyles* Ell.)

435. (2402.) *P. HELVOLUS* L. Wild Bean.

(*Strophostyles angulosus* Ell.)

Dry or sandy banks and hillsides; frequent.

Sides of canal and railways. July 27.

- 436.\* (2406.) *P. UMBELLATUS* (Muhl.) Britton. Wild Bean.

(*Strophostyles peduncularis* Ell.)

Sandy soil; scarce.

Canal near Five-Mile Pond. July 22.



## GERANIACEÆ. Geranium Family.

## 217. GERANIUM L.

437. (2411.) *G. CAROLINIANUM* L. Carolina Cranesbill.  
Dry, gravelly banks; frequent.  
Common along the railways and banks of canal. May 10.
438. (2414.) *G. MACULATUM* L. Wild Cranesbill. Wild Geranium.  
Open woods and thickets; frequent. April 20.

## OXALIDACEÆ. Oxalis Family.

## 218. OXALIS L.

439. (2424.) *O. STRICTA* L. Yellow Wood-sorrel.  
(*O. corniculata stricta* Savigny.)  
Open woods and roadsides; common. May 3 to November 4.
440. (2425.) *O. violacea* L. Violet Wood-sorrel.  
Moist soil in woods and open places; scarce,  
Ferrell's. Ravine northeast of Five-Mile Pond. May 3.

## LINACEÆ. Flax Family.

## 219. LINUM L.

441. (2433.) *L. VIRGINIANUM* L. Wild Flax.  
Dry, sandy soil; scarce.  
Hillside, near Five-Mile Pond. Heckland. July 20.

## RUTACEÆ. Rue Family.

## 220. ZANTHOXYLUM L.

442. (2435) *Z. AMERICANUM* Mill. Prickly Ash. Toothache Tree.  
Borders of open woods; scarce.  
Woods one half mile north of Hickory Grove schoolhouse. Grant.  
The flowers sometimes perfect and the pistils often six. April 15.

## 221. PTELEA L.

443. (2437.) *P. TRIFOLIATA* L. Hop Tree. Wafer Ash. Shrubby  
Trefoil.  
Dry, gravelly or sandy banks; scarce.  
Hillside, near Conover's Pond. Banks of Lost Creek, near  
Seventh Street Bridge. Coal Creek. May 20.

## SIMARUBACEAE. Ailanthus Family.

## 222. AILANTHUS Desf.

444. (2438.) *A. GLANDULOSA* Desf. Tree of Heaven.  
Roadsides, escaped from cultivation; scarce.  
Lockport road, near crossing of E. & T. H. railway. April 25.

## POLYGALACEAE. Milkwort Family.

## 223. POLYGALA L.

- 445.\* (2451.) *P. POLYGAMA* Walt. Pink Polygala.  
Dry, sandy soil; rare.  
Side of Vandalia railway, one mile east of Terre Haute. May 16.
- 446.\* (2454.) *P. SENEGA* L. Seneca Snake-root.  
Prairie borders in dry soil; scarce.  
Quite common at Heckland. May 8.
447. (2456.) *P. VERTICILLATA* L. Whorled Milkwort.  
Dry, upland woods; rare.  
Taken but once, October 17, 1896, in Hipple's Coal-mine Woods.  
In flower and fruit at that time.
- 448.\* (2457.) *P. VIRIDESCENS* L. Pulp Milkwort.  
(*P. sanguinea* L.)  
Low, sandy soil; scarce.  
Heckland. Sides of Van. Railway. Hipple's Coal-mine Woods.  
June 25.

## EUPHORBIACEÆ. Spurge Family.

## 224. PHYLLANTHUS L.

449. (2460.) *P. CAROLINENSIS* Walt.  
Sandy banks along roadsides; scarce.  
North side of Fair Ground. September 30, 1889.

## 225. ACALYPHA L.

450. (2469.) *A. VIRGINICA* L. Three-seeded Mercury.  
Low or sandy waste places; common. July 8 to November.
- 450a. (2470.) *A. VIRGINICA GRACILENS* (A. Gray) Muell.  
Equally common and in similar localities. July 15.

## 226. EUPHORBIA L.

451. (2478.) *E. COMMUTATA* Engelm.  
Damp shaded banks; scarce.  
T. H. & L. Railway, north of Otter Creek Junction. Lost Creek,  
near Seventh Street bridge. May 25.
452. (2479.) *E. COROLLATA* L. Flowering Spurge. White Spurge.  
Gravelly banks, especially along the railways and canals; common.  
May 25.
453. (2481.) *E. CYPARISSIAS* L. Garden Spurge. Cypress Spurge.  
Roadsides and banks of railways; scarce.  
Taken on two different seasons along Vandalia Railway near Fair  
Ground. May 28.
454. (2483.) *E. DENTATA* Michx. Tooth-leaved Spurge.  
Shaded banks in rich sandy soil; scarce.  
Old canal, between Conover's Pond and Fort Harrison. September 6.
455. (2491.) *E. HETEROPHYLLA* L. Diverse-leaved Spurge.  
Banks of canal and hillsides near Five-Mile Pond; scarce. Septem-  
ber 1.  
The first record for the State.
456. (2493.) *E. HUMISTRATA* Engelm.  
Fields and banks in dry soil; frequent. July 10.  
Much more leafy than *E. maculata* L.
- 457.\*. (2498.) *E. NUTANS* Lag.  
(*E. preslii* Guss.)  
Borders of woods, sandy banks and hillsides; common. July 5.  
Varies in height from one to four feet; in size of flower and in color of  
stems, the latter in older and larger specimens becoming red. The pods  
of this and allied species, when dry, burst open with a snapping or  
crackling noise and project the seeds to a distance of several feet.
- 458.\* (2499.) *E. MACULATA* L. Spotted Spurge.  
Open, dry or sandy banks and roadsides; common. July 2.

## CALLITRICHACEÆ. Water Starwort Family.

## 227. CALLITRICHE L.

459. (2513.) *C. HETEROPHYLLA* Pursh. Water Starwort.  
Ponds, ditches, etc.; frequent.  
Pond at Sand Hill. Five-Mile Pond, etc. April 30.

## LIMNANTHACEÆ. False Mermaid Family.

228. FLÆRKEA Willd.

- 46.\* (2518.) F. PROSERPINACOIDES Willd. False Mermaid.

Damp, open woods; rare.

Taken but once, May 12, 1888, in woods northwest of Ferrell's.

## ANACARDIACEÆ. Cashew Family.

229. RHUS L.

- 461.\* (2522.) R. GLABRA L. Smooth Sumach.

Dry, sandy soil and upland thickets; common. June 10.

462. (2525.) R. RADICANS L. Poison Ivy.

(R. toxicodendron L.)

Fence-rows and borders of thickets; common. May 27.

The low, upright form is most frequent in open, sandy soil; the high, climbing form in rich, open woods. The stems of the latter are found two and one-half inches in diameter. See No. 480 below.

## AQUIFOLIACEÆ. Holly Family.

230. ILEX L.

463. (2536.) I. VERTICILLATA (L.) A. Gray. Black Alder. Winterberry.

Low, wet woods and borders of swamps; scarce.

Dense woods northwest of Hickory Grove School-house. Banks of

Little Honey Creek. S. W.  $\frac{1}{4}$  of S. E.  $\frac{1}{4}$ , Sec. 6, Pierson Twp.

Heckland. May 10.

The bright, red berries are especially conspicuous in early winter when the ground is covered with snow.

## CELASTRACEÆ. Staff-tree Family.

231. EUONYMUS L.

- 464.\* (2542.) E. ATROPURPUREUS Jacq. Wahoo. Spindle Tree. Burning Bush.

Rich, open woods; frequent.

Coal Creek. Ferrell's. Sand Hill, etc. May 27.

Among the wild fruits which cater to the sense of sight rather than of taste, that of the wahoo seems to me most beautiful. Hanging on slender pedicels, four or more in a cluster, from the same peduncle, its deep scarlet color and odd shape render it a most striking object. Add to this the orange aril of its seeds, peeping so daintily through the half open

suture of the pod after the latter has been touched by one or two keen frosts, and we have a combination and a contrast most pleasing to the eye.

465.\* (2544) *E. OBOVATUS* Nutt. Trailing Strawberry Bush.

(*E. americanus obovatus* T. and G.)

Low, damp woods and thickets; frequent.

Honey Creek. Ferrell's. Coal Creek. April 21.

232. *CELASTRUS* L.

466.\* (2546.) *C. SCANDENS* L. Waxwork. Climbing Bitter-sweet.

Borders of woods, thickets and fencerows; frequent.

Sides of canal. Sand Hill, etc. May 12.

After the first severe frost the orange-colored pods open and display the scarlet aril within. One of the most ornamental of our wild twining shrubs and easily transplanted and cultivated.

STAPHYLEACEÆ. Bladder Nut Family.

233. *STAPHYLEA* L.

467. (2547.) *S. TRIFOLIA* L. American Bladder Nut.

Hillside thickets; frequent.

Honey Creek. Northeast of Sand Hill. Coal Creek. April 21.

ACERACEÆ. Maple Family.

234. *ACER* L.

468.\* (2550.) *A. NEGUNDO* L. Box Elder. Ash-leaved Maple.

(*Negundo aceroides* Moench.)

Banks of streams and low grounds; frequent.

Honey Creek. Banks of canal, etc. April 8.

469. (2551.) *A. NIGRUM* Michx. Black Sugar Maple.

(*A. saccharinum nigrum* T. and G.)

With *A. saccharum* Marsh, but much less common. April 10.

Distinguished by the darker bark of the trunk and the form of the base and lobes of the leaves.

470. (2553.) *A. RUBRUM* L. Red Maple. Swamp Maple.

Borders of swamps and wet woods; frequent. February 16.

This is the earliest flowering woody plant found in the county, and its leaves in autumn are most beautifully colored by the first frosts. It is often palmed off as the soft maple, but is inferior to the latter for the purpose of transplanting for shade. It blooms a fortnight earlier, and the flowers are a deep pinkish-red and arranged on very short stems in little clusters near the end of the branches. Those of the soft maple are yellowish-green in color and are borne on longer stems.

471. (2554.) *A. SACCHARINUM* L. Soft Maple. White Maple.  
Silver Maple.

(*A. dasycarpum* Ehrh.)

Low, damp woods and river bottoms; common. March 10.

When properly planted and tended the soft maple is one of the most ornamental of shade trees. It is a rapid grower, easily transplanted, and, when given room, it develops into a noble and pleasing form. To allow it free access to the sun and air, with full room for expansion on every side, it should be planted not closer than thirty-five feet to one of its kind.

472. (2555.) *A. SACCHARUM* Marsh. Sugar Maple. Hard Maple.

(*A. saccharinum* Wang.)

Open, upland woods; common. April 15.

The hard maple is one of the most beautiful of our native forest trees; indeed, few trees of any country can equal it in stateliness of form or gracefulness of habit. No other tree supports an equally massive head of foliage on so slender a stem. No other, of equal size, is more compact in its growth; and, after reaching a height of thirty or forty feet, if the top be cut out, no other tree will assume a form more rounded or pleasing in outline, provided it be given plenty of room.

#### HIPPOCASTANACEÆ. Horse-chestnut Family.

##### 235. *ÆSCULUS* L.

473. (2559.) *A. GLABRA* Willd. Ohio Buckeye.

Open woods and along streams in rich soil; frequent.

Sand Hill. Honey Creek. April 14.

#### BALSAMINACEÆ. Jewel-weed Family.

##### 236. *IMPATIENS* L.

474. (2566.) *I. AUREA* Muhl. Pale Touch-me-not. Jewel-weed.

(*I. pallida* Nutt.)

Bottoms of ravines and damp, shady places; frequent.

Grant. Coal Creek. Ferrell's. June 10.

475. (2567.) *I. BIFLORA* Walt. Spotted Touch-me-not.

(*I. fulva* Nutt.)

With the preceding but less frequent. June 20.

## RHAMNACEÆ. Buckthorn Family.

## 237. CEANOTHUS L.

- 476.\* (2574.) *C. AMERICANUS* L. Red Root. New Jersey Tea.  
Open, sandy woods and roadsides; frequent.  
Sides of railway near Heckland. Hillside near Five-Mile Pond.  
E. & T. H. R. R., etc. May 28.

## VITACEÆ. Vine Family.

## 238. VITIS L.

477. (2577.) *V. AESTIVALIS* Michx. Summer Grape.  
Dry, upland thickets and fencerows; frequent, especially in the  
southern half of the county. May 10.  
The fruit ripens about mid-September and may be readily known  
from that of the following by its sweet, musky taste; slightly  
larger size, and the compactness of the bunches.
478. (2581.) *V. CORDIFOLIA* Michx. Frost Grape. Chicken Grape.  
Borders of streams and low ground thickets; common. April 25.
479. (2587.) *V. VULPINA* L. Riverside Grape.  
(*V. riparia* Michx.)  
Banks of streams and low ground; not common.  
Honey Creek. Coal Creek. May 1.

## 239. PARTHENOCISSUS Planch.

(*Ampelopsis* Michx.)

480. (2588.) *P. QUINQUEFOLIA* (L.) Planch. Virginia Creeper.  
American Ivy. Five-leaved Ivy. Woodbine.  
(*Ampelopsis quinquefolia* Michx.)  
Open woods and fencerows; common. May 25.  
One of the most handsome of our wild vines; easily cultivated; often  
confounded with poison ivy (*Rhus radicans* L.) from which it may  
readily be distinguished by its five leaflets and black fruit; the leaflets  
of the poison ivy being three in number and the fruit whitish-yellow.

## TILIACEÆ. Linden Family.

## 240. TILIA L.

- 481.\* (2592.) *T. AMERICANA* L. Basswood. Lin. Whitewood.  
Open woods, sides of ravines, etc., in rich soil; frequent. May 24.  
The fragrant flowers of the lin or basswood, abounding as they do in  
honey, are very attractive to bees, butterflies and other nectar-loving in-  
sects, and when the trees are in full blossom the buzz and hum of these

visitors can be heard some rods away. Rare species of butterflies can then often be found in their vicinity. For example, on June 4, 1896, the writer took 18 specimens of the uncommon *Libythea bachmani* Kirtland from the flowers of three basswood trees standing in front of his residence in a thickly settled portion of the city of Indianapolis.

#### MALVACEÆ. Mallow Family.

##### 241. ABUTILON Gærtn.

482. (2595.) *A. ABUTILON* (L.) Rusby. Velvet Leaf. Indian Mallow.

(*A. avicennæ* Gærtn.)

Cultivated fields and roadsides, especially in alluvial soil; common. June 1.

##### 242. MALVA L.

483. (2601.) *M. ROTUNDIFOLIA* L. Common Mallow.

Roadsides and waste places in city; common. April 22.

The petals vary from whitish to pale blue and pinkish.

##### 243. SIDA L.

484. (2614.) *S. SPINOSA* L.

Roadsides and open woods in sandy soil; common. June 3 to November.

##### 244. HIBISCUS L.

485. (2615.) *H. LASIOCARPUS* Cav. Rose Mallow.

Borders of prairie swamps; scarce. July 5.

Noted in the county only at Heckland, one-third of a mile west of the station.

- 486.\* (2616.) *H. MILITARIS* Cav. Halberd-leaved Rose Mallow.

Sandy overflowed bottoms of Wabash River; frequent south of Five-mile Pond and near Durkey's Ferry. July 10.

#### HYPERICACEÆ. St. John's-wort Family.

##### 245. HYPERICUM L.

487. (2631.) *H. DENSIFLORUM* Pursh. Densely-flowered St. John's-wort.

Edge of river bank in woods below Ft. Harrison. October 12, 1896.

The first record for the State.

488. (2640.) *H. MACULATUM* Walt. Spotted St. John's-wort.

Low, moist ground; frequent.

Heckland. Beach's woods. June 20.

The sepals as well as petals are marked with black lines.



489. (2642.) *H. MUTILUM* L. Dwarf St. John's-wort.  
Moist meadows and cultivated fields; common. July 1.
490. (2643.) *H. PERFORATUM* L. Common St. John's-wort.  
Old fields, meadows and roadsides; frequent. June 1.
491. (2645.) *H. PROLIFICUM* L. Shrubby St. John's-wort.  
Banks of streams and borders of moist, open woods; scarce.  
Coal Creek. Honey Creek north of Lockport. July 3.

## CISTACEÆ. Rock-Rose Family.

246. *HELIANTHEMUM* Pers.

492. (2654.) *H. CANADENSE* (L.) Michx. Frost-weed. Rock-rose.  
Dry, sandy hillsides; scarce.  
Hillside near Five-Mile Pond. May 28.

247. *LECHEA* L.

493. (2662.) *L. MINOR* L. Pinweed.  
Margins of prairies, etc., in dry soil; scarce.  
Near Five-mile Pond, on hillside. Heckland. July 25 to November 1.

## VIOLACEÆ. Violet Family.

248. *VIOLA* L.

494. (2667.) *V. BLANDA* Willd. Sweet White Violet.  
Damp wooded hillsides; rare.  
Woods east of St. Mary's. April 28.
- 495.\* (2675.) *V. LANCEOLATA* L. Lance-leaved Violet.  
Margins of ponds and damp prairies; scarce.  
Goose Pond. Heckland. April 16.
496. (2678.) *V. OBLIQUA* Hill. Common Blue Violet.  
(*V. palmata cucullata* Gray.)  
Moist, low grounds; abundant. April 5 to November.
497. (2680.) *V. PALMATA* L. Blue Violet.  
Dry open woods; scarce.  
Sand Hill. Beach's woods. April 20.
498. (2684.) *V. PEDATAFIDA* Don.  
Dry, sandy places; rare.  
Collected by Mr. U. O. Cox, near Five-mile Pond. May 4, 1891.
499. (2686.) *V. PUBESCENS* Ait. Downy Yellow Violet.  
Dry, open woods; common. April 13.

500. (2689.) *V. SAGITTATA* Ait. Arrow-leaved Violet.  
Borders of moist prairies; scarce.  
Heckland. April 28.
501. (2694.) *V. STRIATA* Ait. Pale Violet.  
Open woods in sandy soil; common. April 13.  
The petals vary in color from deep cream to almost white.
502. (2695.) *V. TENELLA* Muhl. Wild Pansy. Heart's Ease.  
(*V. tricolor arvensis* L.)  
Dry, sandy banks; frequent. March 17.  
Beach's woods. Southeast of Hunt's Rosary.

249. *SOLEA* Spreng.

503. (2698.) *S. CONCOLOR* (Forst.) Gingins. Green Violet.  
Damp, wooded hillsides; scarce. April 21.  
Honey Creek. Coal Creek.

## PASSIFLORACEÆ. Passion Flower Family.

250. *PASSIFLORA* L.

504. (2701.) *P. LUTEA* L. Northern Passion Flower.  
Borders of open woods in rich soil; scarce.  
Taken but once, September 19, 1889, from McKeen's woods south  
of Fair Ground.

## THYMELAEACEÆ. Mezereum Family.

251. *DIRCA* L.

505. (2714.) *D. PALUSTRIS* L. Leatherwood. Moosewood.  
Rich hillside thickets and banks of streams; scarce.  
Grant. Coal Creek. April 14.

## LYTHRACEÆ. Loosestrife Family.

252. *RODALA* L.

- 506.\* (2718.) *R. RAMOSIOR* (L.) Kœhne.  
Ditches and mucky borders of ponds; scarce.  
Marshes south of Fair Ground. Conover's Pond. August 21.

253. *AMMANNIA* L.

- 507.\* (2720.) *A. COCCINEA* Rottb. Ammannia.  
Low, damp places; frequent.  
Heckland. Marsh south of Fair Ground. August 10 to Octo-  
ber 20.

## 254. LYTHRUM L.

- 508.\* (2723.) *L. ALATUM* Pursh. Loosestrife.  
Margins of wet prairies; scarce.  
Heckland. June 12.

## 255. DECODON J. F. Gmel.

509. (2729) *D. VERTICILLATUS* (L.) Ell. Swamp Loosestrife.  
Borders of marshes; rare.  
Near Heckland.

## ONAGRACEÆ. Evening Primrose Family.

## 256. LUDWIGIA L.

510. (2736.) *L. ALTERNIFOLIA* L. Seed-box.  
Ditches and margins of swamps; scarce.  
Side of Vandalia Railway, near Glen. Goose Pond. July 10.  
Variable; the petals sometimes smaller than the sepals.
511. (2742.) *L. PALUSTRIS* (L.) Ell. Water Purslane.  
Ditches and muddy brooks; frequent.  
Side of Vandalia Railway, near Glen. Outlet of Five-mile Pond,  
etc. July 12.
512. (2743.) *L. POLYCARPA* Short and Peter. False Loosestrife.  
Swamps and margins of ponds; scarce.  
Marsh near Vandalia Railway, west of Beach's woods, and farther  
east near Glen. September 6, 1889.

## 257. EPILOBIUM L.

- 513.\* (2747.) *E. COLORATUM* Muhl. Willow Herb.  
Low damp soil; common. July 5.
- 514.\* (2752.) *E. STRICTUM* Muhl. Downy Willow Herb.  
Borders of swamps; rare.  
Taken but once, October 6, 1889, from marsh near Vandalia Rail-  
way, west of Beach's woods.

## 258. ONAGRA Adans.

(*Enothera* L. in part.)

515. (2756.) *O. BIENNIS* (L.) Scop. Evening Primrose.  
(*Enothera biennis* L.)  
Borders of fields and waste places, especially in sandy soil; com-  
mon. June 25 to October 16.

259. *ENOTHERA* L.

516. (2761.) *O. SINUATA* L. Sinuate-leaved Primrose.  
Sandy cultivated fields; scarce.  
Probably a railroad migrant from the South. May 14.  
The first record for the State.

260. *KNEIFFIA* Spach.

- 517.\* (2765.) *K. FRUITICOSA* (L.) Raimann. Sun-drops.  
(*Enothera fruiticosa* L.)  
Dry prairies; frequent.  
Heckland. T. H. & L. R. R. Hillside near Five-mile Pond.  
June 8.

261. *GAURA* L.

- 518.\* (2782.) *G. BIENNIS* L.  
Sandy soil in waste places; frequent.  
Canal, near Five-mile Pond. Along railways. June 27.

262. *CIRCÆA* L.

519. (2790.) *C. LUTETIANA* L. Enchanter's Nightshade.  
Open woods in rich soil; common. June 23.

*HALORRHAGIDACEÆ*. Water Milfoil Family.263. *MYRIOPHYLLUM* L.

520. (2804.) *M. VERTICILLATUM* L. Water Milfoil.  
Ponds; scarce.  
Goose Pond. Five-Mile Pond. May 2.  
The first record for the State.

*ARALIACEÆ*. Ginseng Family.264. *ARALIA* L.

521. (2808.) *A. RACEMOSA* L. Spikenard.  
Sides of deep, damp ravines; scarce.  
Coal Creek. Grant. June 28.

265. *PANAX* L.

522. (2810.) *P. QUINQUEFOLIUM* L. Ginseng.  
(*Aralia quinquefolia* Dec. and Planch.)  
Rich wooded hillsides and ravines; scarce.  
Honey Creek. Grant. Coal Creek. May 5.  
Once a noted article of commerce, the spicy roots being gathered in large quantities for shipment to China.

## UMBELLIFERÆ. Parsley Family.

## 266. DAUCUS L.

523. (2812.) D. CAROTA L. Wild Carrot.  
Old fields and roadsides; frequent. June 20.  
Spreading rapidly and fast becoming a nuisance.

267 OXYPOLIS Raf.  
(*Tiedemannia* DC.)

524. (2820.) O. RIGIDUS (L.) Britton. Cowbane.  
(*Tiedemannia rigida* DC.)

Borders of swamps; scarce.  
Heckland. Goose Pond. July 18.

## 268. HERACLEUM L.

525. (2822.) H. LANATUM Michx. Cow Parsnip.  
Low, damp places; scarce.  
Marsh near Glen. June 1.

## 269. PASTINACA L.

526. (2823.) P. SATIVA L. Wild Parsnip.  
Waste places, especially in moist soil; frequent.  
Sides of Van. Railway near Glen. Roadsides near Sand Hill.  
May 28.

## 270. THASPIUM Nutt.

527. (2831.) T. BARBINODE (Michx.) Nutt. Meadow Parsnip.  
Rich or sandy soil; scarce.  
Old canal south of Conover's Pond. June 16.
- 528.\* (2834.) T. TRIFOLIATUM (L.) Britton.  
Open woods in rich, dry soil; frequent.  
McKeen's Woods. Banks of canal near Ft. Harrison, etc.
- 528a. (2835.) T. TRIFOLIATUM AUREUM (Nutt.) Britton. Meadow Parsnip.  
(*T. aureum* Nutt.)  
Sides of ditches and upland swamps; frequent.  
Heckland. Van. Railway, etc. May 8.

## 271. ERYNGIUM L.

- 529.\* (2842.) E. AQUATICUM L. Rattlesnake-master. Button Snake-root.

(*E. yuccæfolium* Michx.)

Borders of prairies.

Common at Heckland and along the T. H. & L. Railway above Otter Creek Junction. July 16.

## 272. SANICULA L.

530. (2846.) S. CANADENSIS L. Black Snake-root.

(*S. marylandica canadensis* Torr.)

Thickets and open woods; frequent. May 12.

531. (2847.) S. MARYLANDICA L. Sanicle. Black Snake-root.

Rich, rather damp woods; scarce.

Beach's. Woods east of St. Mary's. May 16.

## 273. EULOPHUS Nutt.

532. (2855.) E. AMERICANUS Nutt.

Borders of prairies, rare.

Heckland. October 5, 1889.

Recorded hitherto only from Gibson County.

## 274. CHÆROPHYLLUM L.

- 533.\* (2858.) C. PROCUMBENS (L.) Crantz. Chervil.

Open woods in rich, sandy soil; scarce.

Sand Hill. May 2.

## 275. OSMORRHIZA Raf.

534. (2860.) O. CLAYTONI (Michx.) B. S. P. Hairy Sweet Cicely.

(*O. brevistylis* DC.)

Damp, rich woods; frequent. May 11.

535. (2861.) O. LONGISTYLIS (Torr.) DC. Smooth Sweet Cicely.

Thickets and fence-rows; less frequent than the above. May 6.

## 276. SIUM L.

536. (2864.) S. CICUTÆFOLIUM J. F. Gmel. Water Parsnip.

Ditches and borders of ponds; frequent. July 10.

Pond at Sand Hill. Heckland. Van. Railway.

## 277. CICUTA L.

- 537.\* (2874.) C. MACULATA L. Spotted Cowbane. Musquash Root.

Beaver Poison.

Marshes and ditches; common. July 11.

278. DERINGA Adans.  
(*Cryptotenia* DC.)

538. (2875.) D. CANADENSIS (L.) Kuntze. Honewort.  
(*Cryptotenia canadensis* DC.)  
Borders of thickets and rich woods; frequent.  
Ferrel's. Southeast of Hunt's. Honey Creek. June 2.

279. ERIGENIA Nutt.

- 539.\* (2887.) E. BULBOSA Nutt. Harbinger of Spring. Pepper  
and Salt. Turkey Pea.  
Open woods, especially in damp, rich soil; common. February 23.

CORNACEÆ. Dogwood Family.

280. CORNUS L.

540. (2889.) C. ALTERNIFOLIA L. f. Alternate-leaved Dogwood.  
Sides of ravines and upland fencerows; frequent. May 12.
541. (2893.) C. CANDIDISSIMA Marsh. Panicked Cornel or Dogwood.  
(*C. paniculata* L'Her.)  
Dry, open hillsides and borders of thickets; frequent.  
East of Five-mile Pond. Heckland. Glen. May 20.  
This species has the leaves smaller and more crowded than those of  
any other in our bounds.
- 542.\* (2894.) C. CIRCINATA L'Her. Round-leaved Dogwood.  
Borders of open, rich woods and thickets; rare.  
Ferrell's. Southeast  $\frac{1}{4}$  section 6, Pierson Tp. May 8.  
Recorded before only from Lake County.

543. (2895.) C. FLORIDA L. Flowering Dogwood.  
Borders of open woods in dry soil; common. April 20.

544. (2896.) C. STOLONIFERA Michx. Red Osier Dogwood.  
Borders of thickets and gravelly banks; frequent. May 11.  
Contrary to the habitat usually given this species, in Vigo County,  
occurs as frequently in dry, gravelly soil as in damp places. It often  
produces a second set of blossoms the same year; a clump growing in the  
bed of the old canal near Conover's Pond being in bloom on October 14,  
1896.

281. NYSSA L.

545. (2899.) N. AQUATICA L. Black Gum. Sour Gum.  
(*N. sylvatica* Marsh.)

Open, rather damp, upland woods; frequent. May 17.  
Reaches a large size in the southern part of the county, but is put to  
no use on account of the difficulty of working the wood. The foliage is  
very handsome after the first frosts of autumn.

## MONOTROPACEÆ. Indian-Pipe Family.

## 282. MONOTROPA L.

546. (2918.) *M. UNIFLORA* L. Indian Pipe. Corpse Plant.  
 Dry wooded hillsides, in rich soil; scarce.  
 Coal Creek hills. Hipple's Coal-mine woods. July 1 to October 24.

## 283. HYPOPITYS Adans.

547. (2919.) *H. HYPOPITYS* (L.) Small. Pine sap. False Beech-drops.  
 (*Monotropa hypopitys* L.)  
 Found but once, October 24, 1896, in dry woods at Coal Creek.  
 Flowers about the last of June.

## PRIMULACEÆ. Primrose Family.

## 284. SAMOLUS L.

548. (2995.) *S. FLORIBUNDUS* HBK. Brookweed. Water Pimpernel.  
 (*S. valerandi americanus* Gray.)  
 Damp, shaded places; scarce.  
 Sand Hill, near spring. Vandalia Railway, near Beach's. June 14.

## 285. STEIRONEMA Raf.

- 549.\* (3001.) *S. CILIATUM* (L.) Baudo. Loosestrife.  
 Borders of low, damp prairies and streams; scarce.  
 Heckland. Honey Creek. June 20.
550. (3003.) *S. LANCEOLATUM* (Walt.) A. Gray.  
 Borders of damp thickets and ditches; frequent.  
 Marsh south of Van. Railway, near Glen. Ferrell's. June 12.
551. (3004.) *S. QUADRIFLORUM* (Sims) A. S. Hitchc.  
 (*S. longifolium* Gray.)  
 Banks of streams, fence rows, etc.; frequent.  
 Coal Creek. Grant. July 1.

## EBENACEÆ. Ebony Family.

## 286. DIOSPYROS L.

552. (3018.) *D. VIRGINIANA* L. Persimmon. Date Plum.  
 Old fields and fence rows; frequent, especially in southern half of  
 the county, where it is indigenous. June 1.  
 The fruit varies much in size, date of ripening and quality.



## OLEACEÆ. Olive Family.

## 287. FRAXINUS L.

553. (3025.) *F. AMERICANA* L. White Ash.  
Open woods; common. April 20.
554. (3028.) *F. LANCEOLATA* Borck. Green Ash.  
(*F. viridis* Michx. f.)  
Low rich bottoms along streams; frequent.  
Honey Creek. Sugar Creek. Near Ft. Harrison. May 1.
555. (3029.) *F. NIGRA* Marsh. Black Ash.  
(*F. sambucifolia* Lam.)  
Borders of swamps and marshes; scarce.  
Marsh northeast of Sand Hill. Goose Pond. April 15.
556. (3031.) *F. QUADRANGULATA* Michx. Blue Ash.  
Bottoms of Wabash River and low ground generally; frequent.  
April 20.
- In its greatest development it reaches a height of 120 feet, and measures fifteen feet in circumference two feet above the ground.

## GENTIANACEÆ. Gentian Family.

## 288. GENTIANA L.

- 557.\* (3057.) *G. ANDREWSII* Griseb. Closed Blue Gentian. Cloistered Heart.  
Low grassy banks along streams; frequent.  
Honey Creek. Coal Creek, etc. September 18.
- 557a.\* (3058.) *G. ANDREWSII ALBIFLORA* Britton. White Gentian.  
(*G. alba* Muhl.)  
Dry sandy hillside southeast of Five-mile Pond; rare. September 23, 1888.
- 558.\* (3066.) *G. QUINQUEFOLIA* L. Five-flowered Gentian.  
(*G. quinqueflora* Lam.)  
Moist hillside thickets. Noted only at Coal Creek, where it is locally common. September 5.
- 559.\* (3070.) *G. SAPONARIA* L. Soapwort Gentian.  
Borders of prairies; scarce.  
Heckland. Van. Railway. September 15.

## 289. FRASERA Walt.

560. (3076.) *F. CAROLINENSIS* Walt. American Columbo.  
Dry woods in rich soil; scarce.  
Beach's woods. Woods east side of Goose Pond. Heckland.  
May 27.

## 290. OBOLARIA L.

## 561. (3079.) O. VIRGINICA L.

Rare. Noted only at Coal Creek in dry woods. April 1, 1890.

Prof. Evermann found three plants at same place on January 26, 1890. He brought them home and they bloomed on February 11.

Recorded in Indiana only from Jefferson County, but has also been taken by the writer in Monroe.

## APOCYNACEÆ. Dogbane Family.

## 291. APOCYNUM L.

## 562. (3087.) A. ANDROSÆMIFOLIUM L. Spreading Dogbane.

Borders of thickets, banks, etc., in dry soil; scarce.

Honey Creek. Grant. June 20.

## 563. (3088.) A. CANNABINUM L. Indian Hemp.

Borders of streams and moist prairies; frequent. June 1.

## ASCLEPIADACEÆ. Milkweed Family.

## 292. ASCLEPIAS L.

## 564. (3097.) A. INCARNATA L. Swamp Milkweed.

Borders of swamps and marshes; common. July 4.

## 565.\* (3102.) A. OBTUSIFOLIA Michx. Obtuse-leaved Milkweed.

Gravelly banks; frequent.

Van. Railway. E. & T. H. Railway near Spring Hill. May 25.

## 566. (—). A. PHYTOLACCOIDES Pursh. Poke Milkweed.

Borders of moist thickets and sides of ravines; rare.

Thicket west of Macksville near Broadhurst Mine. May 31.

## 567.\* (3106.) A. PURPURASCENS L. Purple Milkweed.

Borders of dry, sandy fields; scarce.

One mile southeast of Prairieton. Van. Railway west of Glen.

June 14.

## 568. (3107.) A. QUADRIFOLIA Jacq. Four-leaved Milkweed.

Wooded hillsides and thickets; scarce.

Coal Creek. Hipple's Coal-mine woods. June 1.

## 569. (3111.) A. SYRIACA L. Common Milkweed. Silkweed.

(*A. cornuti* Dec.)

Waste places in rich soil; common. June 2.

## 570.\* (3112.) A. TUBEROSA L. Butterfly Weed. Pleurisy Root. Indian Posey.

Sandy soil and gravelly banks; frequent. June 15.

Along railways and old canal.

571. (3113.) *A. VARIEGATA* L. Variegated Milkweed.  
Dry woods; scarce. June 14.  
Beach's Woods. Van. Railway near Glen.
572. (3114.) *A. VERTICILLATA* L. Whorled Milkweed.  
Sandy hillside near Five-Mile Pond; frequent in the one place.  
July 6.  
Not before recorded in Indiana south of Tippecanoe County.

293. *AMPELANUS* Raf.*(Enslenia Nutt.)*

573. (3124.) *A. ALBIDUS* (Nutt.) Britton. Climbing Milkweed.  
*(Enslenia albida Nutt.)*  
One specimen taken north of Fort Harrison, near bank of Wabash  
River. September 21, 1896.  
Its most northern record for the State.

## CONVOLVULACEÆ. Convolvulus Family.

294. *IPOMCEA* L.

574. (3135.) *I. HEDERACEA* Jacq.  
Alluvial bottom lands; scarce.  
Wabash bottoms below Ft. Harrison. Canal, near Five-mile Pond.  
September 10.
575. (3136.) *I. LACUNOSA* L. Wild Morning Glory.  
Alluvial soil and sand bars along the Wabash River; frequent.  
August 20.
576. (3138.) *I. PANDURATA* (L.) Meyer. Wild Sweet Potato. Man-  
of-the-Earth.  
Sandy cultivated fields; frequent or common. June 20.
577. (3139.) *I. PURPUREA* (L.) Roth. Common Morning Glory.  
Gravelly banks and roadsides; frequent, especially along the rail-  
ways. September 1.

295. *CONVOLVULUS* L.

578. (3145.) *C. ARVENSIS* L. Bindweed.  
Old fields and roadsides; scarce. June 11.
579. (3148.) *C. SEPIUM* L. Bracted Bindweed. Hedge Bindweed,  
Gravelly banks and borders of wet fields; frequent. June 6.

## CUSCUTACEÆ. Dodder Family.

## 296. CUSCUTA L.

580. (3161.)
- C. GRONOVII*
- Willd. Dodder.

Borders of marshes and damp thickets; common. July 15.

581. (3163.)
- C. POLYGONORUM*
- Engelm. Dodder.

(*C. chlorocarpa* Engelm.)

Low, damp soil, on *Solidago rugosa* Mill. and *Ambrosia trifida* L.; frequent. July 25.

The dodder is among the most interesting of our parasitic plants. It is a parasite by suicide. That is, it springs from a seed which furnishes it nourishment until it finds some suitable host around which it coils itself. In coiling it contracts, and so pulls itself up by the roots. If not uprooted a portion of the stem a few inches above the soil withers, dies and breaks apart, while the upper, twining portion continues to flourish throughout the season.

If one could trace its history from the beginning he would doubtless find that it once possessed a weak stem, and desiring to reach the light, and twining to accomplish this, it tasted juices by chance, was nourished by them, and thus began a downfall which has continued until it presents the degraded spectacle of a plant "without a root, without a twig, without a leaf, and having a stem so useless as to be inadequate to bear its own weight. Other plants, with smaller beginnings, have gone on to higher forms, while the dodder, from a breach of the laws of evolution, pays one of nature's heaviest fines—loses the organs which it once possessed."

## POLEMONIACEÆ. Polemonium Family.

## 297. PHLOX L.

- 582.\* (3166)
- P. BIFIDA*
- Beck. Dwarf Phlox.

Sandy hillsides and dry, open woods.

Common at Five-mile Pond and Coal Creek. April 7.

583. (3168.)
- P. DIVARICATA*
- L.

Open woods and ravines; common. April 5.

Variable. Leaves sometimes alternate and very hairy; in form from ovate to lanceolate. Petals notched at apex or entire; in color from purplish to white.

- 584.\* (3172.)
- P. GLABERRIMA*
- L. Smooth-stemmed Phlox.

Moist banks and prairies; scarce.

Heckland. Vandalia Railway, near Glen. May 25.

Its most northern record for Indiana.

585. (3173.) *P. MACULATA* L. Wild Sweet William.  
Borders of prairies and damp woods; scarce.  
Heckland. Ferrell's. June 1.
- 586.\* (3175.) *P. PANICULATA* L. Panicked Sweet William.  
Rich, shaded grounds, usually near streams; frequent.  
Honey Creek. Vandalia Railway, near Beach's, etc. June 5.
- 587.\* (3176.) *P. PILOSA* L. Hairy Phlox.  
Damp prairies and borders of woods; scarce.  
Heckland. Ferrell's. May 12.

298. *POLEMONIUM* L.

588. (3192.) *P. REPTANS* L. Greek Valerian.  
Rich wooded slopes and ravines; common. April 13.  
All specimens noted were more or less hairy.

## HYDROPHYLLACEÆ. Waterleaf Family.

299. *HYDROPHYLLUM* L.

589. (3196.) *H. APPENDICULATUM* Michx.  
Open woods and ravines; common. April 20.  
Often but one ovule is formed in the ovary. The lobes in the sinuses  
of the calyx vary much in size.
590. (3197.) *H. CANADENSE* L. Canada Waterleaf.  
Sides of deep, damp ravines; scarce.  
Honey Creek. Coal Creek. Heckland. May 7.
- 591.\* (3198.) *H. MACROPHYLLUM* Nutt. Hairy Waterleaf.  
Rich, damp woods, ravines, etc.; scarce.  
Southeast of Hunt's. Ferrell's. Beach's. May 1.
- 592.\* (3199.) *H. VIRGINICUM* L. Virginia Waterleaf.  
Ravines and open woods in damp soil; frequent. May 8.

300. *MACROCALYX* Trew.*(Ellisia L.)*

- 593.\* (3201.) *M. NYCTELEA* (L.) Kuntze. *Ellisia*.  
*(Ellisia nyctelea L.)*  
Noted only in a damp spot on hillside at North Sand Hill. May 25  
Identified as *E. ambigua* Nutt., now included with the above.  
The first record for the State.

## 301. PHACELIA Juss.

594. (3202.) P. BIPINNATIFIDA Michx. Phacelia.

Wooded slopes in rich soil; scarce. April 28.

Coal Creek. Honey Creek.

The scarcity of this species suggests that Vigo County is near the northern limit of its range in Indiana. In Monroe County it is very common.

- 595.\* (3210.) P. PURSHII Buckl. Pursh's Phacelia.

Sandy open woods; frequent. April 28.

Sand Hill. Coal Creek. Heckland, etc.

## BORAGINACEÆ. Borage Family.

## 302. HELIOTROPIUM L.

596. (3217.) H. INDICUM L. Indian Heliotrope.

Banks of Wabash near Ft. Harrison; scarce. July 1.

## 303. CYNOGLOSSUM L.

597. (3219.) C. OFFICINALE L. Common Hound's Tongue.

Old fields and roadsides; common. May 20.

598. (3220.) C. VIRGINICUM L. Wild Comfrey.

Dry wooded hillsides; scarce.

Coal Creek Hills. Hipple's Coal-mine woods. May 26.

## 304. LAPPULA Moench.

*(Echinosperrum Lehm.)*

599. (3223.) L. LAPPULA (L.) Karst. Stickseed.

*(Echinosperrum lappula Lehm.)*

Open waste places; scarce.

Along Vandalia Railway near Fair Ground. June 29.

600. (3225.) L. VIRGINIANA (L.) Greene. Beggar's Lice. Stickseed.

Sticktight.

*(Echinosperrum virginicum Lehm.)*

Open woods, borders of thickets and fence-rows; common. July 3.

## 305. MERTENSIA Roth.

601. (3236.) M. VIRGINICA (L.) DC. Blue Bells. Smooth Lungwort. Virginia Cowslip.

Damp, open woods and banks of streams; frequent.

Near Lost Creek Bridge on Seventh Street road. McKeen's woods, etc. April 5.

## 306. MYOSOTIS L.

602. (3241.) *M. PALUSTRIS* (L.) Relh. Forget-me-not.  
Damp, low places; scarce.  
Spring branch south side of National road near Highland Lawn;  
escaped. May 20.

## 307. LITHOSPERMUM L.

603. (3244.) *L. ARVENSE* L. Corn Gromwell.  
Waste sandy places along railways and canal; scarce. April 25.
- 604.\* (3245.) *L. ANGUSTIFOLIUM* Michx. Narrow-leaved Puccoon.  
Sandy, waste places; scarce.  
Side of canal and hillside near Five-mile Pond.
- 605.\* (3246.) *L. CANESCENS* (Michx.) Lehm. Hoary Puccoon. Alkanet.  
Sandy soil along the old canal; frequent. May 5.
- 606.\* (3247.) *L. GMELINI* (Michx.) A. S. Hitchc. Hairy Puccoon.  
(*L. hirtum* Lehm.)  
With the preceding; common. May 10.
607. (3248.) *L. LATIFOLIUM* Michx. Broad-leaved Gromwell.  
Dry, wooded hillsides; scarce.  
Coal Creek. May 5.

## 308. ONOSMODIUM Michx.

- 608.\* (3251.) *O. CAROLINIANUM* (Lam.) A. DC. False Gromwell.  
Gravelly banks along the old canal; frequent. May 22.

## VERBENACEÆ. Vervain Family.

## 309. VERBENA L.

609. (3260.) *V. BRACTEOSA* Michx. Prostrate Vervain.  
Gravelly banks and waste, sandy places; common. May 27.
610. (3261.) *V. CANADENSIS* (L.) Britton. Canada Vervain.  
(*V. aubletia* L.)  
Prairies and borders of railways; scarce.  
Heckland. May 20.
611. (3262.) *V. HASTATA* L. Blue Vervain.  
Dry banks, roadsides, etc.; frequent. June 10.
612. (3265.) *V. STRICTA* Vent. Hoary Vervain.  
Waste places in dry, sandy soil; common. June 15.

613. (3266.) *V. URTICÆFOLIA* L. White Vervain. Nettle-leaved Vervain.

Borders of fields and roadsides in dry soil; common. June 16.

310. *LIPPIA* L.

614. (3269.) *L. LANCEOLATA* Michx. Fog-fruit.

Low, wet meadows and borders of ponds; frequent. July 20.

311. *PHRYMA* L.

615. (3271.) *P. LEPTOSTACHYA* L. Lopseed.

Moist, dense woods; common. June 19.

LABIATÆ. Mint Family.

312. *COLLINSONIA* L.

616. (3272.) *C. CANADENSIS* L. Stone Root. Richweed. Horse-Balm.

Rich soil, along wooded hillsides or ravines; frequent. July 2.

The leaves are oftentimes one foot in length; the odor strong, but rather agreeable.

313. *MENTHA* L.

617. (3279.) *M. CANADENSIS* L. Wild Mint.

Moist grounds about springs and brooks; frequent. June 18.

618. (3284.) *M. PIPERITA* L. Peppermint.

Borders of brooks; common. July 1.

619. (3287.) *M. SPICATA* L. Spearmint.

(*M. viridis* L.)

Low, wet places; frequent. July 8.

314. *LYCOPUS* L.

620. (3292.) *L. SINUATUS* Ell. Water Horehound.

Along ditches and margins of ponds; common. June 18.

621. (3293.) *L. VIRGINICUS* L. Bugle-weed.

Borders of swamps and wet banks; frequent. May 22.

315. *KCELLIA* Moench.

(*Pycnanthemum* Michx.)

- 622.\* (3298.) *K. FLEXUOSA* (Walt.) McM. Narrow-leaved Mountain Mint.

(*Pycnanthemum linifolium* Pursh.)

Dry, sandy soil; scarce.

Heckland. August 5.



- 623.\* (3303) K. PILOSA (Nutt.) Britton. Basil.  
*(Pycnanthemum muticum pilosum Gray.)*  
 Sandy hillsides and prairies; frequent.  
 Five-mile Pond. Heckland. August 27.

- 624.\* (3306.) K. VIRGINIANA (L.) McM. Mountain Mint.  
*(Pycnanthemum lanceolatum Pursh.)*  
 Prairies and dry, sandy woods; frequent.  
 Heckland. Five-mile Pond. June 28.

## 316. HEDEOMA Pers.

625. (3313.) H. PULEGIOIDES (L.) Pers. American Pennyroyal.  
 Fence-rows, open woods and roadsides in dry soil; common. June 7.

## 317. MONARDA L.

- 626.\* (3333.) M. FISTULOSA L. Wild Bergamont. Horse Mint.  
 Dry, sandy hillsides; frequent. June 18.
627. (3336.) M. SCABRA Beck.  
*(M. fistulosa mollis Benth.)*  
 Found in one locality along Vandalia Railway near Beach's woods.  
 July 1, 1891.

## 318. BLEPHILIA Raf.

628. (3337.) B. CILIATA (L.) Raf.  
 Open woods; frequent. June 16.
629. (3338.) B. HIRSUTA (Pursh.) Torr.  
 Dense, moist woods; common. June 20.

## 319. VLECKIA Raf.

*(Lophanthus Benth.)*

630. (3340.) V. NEPETOIDES (L.) Raf. Giant Hyssop.  
*(Lophanthus nepetoides Benth.)*  
 Borders of thickets and fence-rows; frequent. September 5.
631. (3341.) V. SCROPHULARIÆFOLIA (Willd.) Raf.  
*(Lophanthus scrophulariæfolius Benth.)*  
 Fence rows in rich, dry upland soil; scarce.  
 East side of South Sand Hill woods. September 30.

## 320. NEPETA L.

632. (3342.) N. CATARIA L. Catnip.  
 Roadsides and fencerows; common. June 11.

## 321. GLECOMA L.

633. (3343.) G. HEDERACEA L. Ground Ivy. Gill.  
(*Nepeta glechoma* Benth.)  
Moist, open, grassy banks; common. April 14.

## 322. SCUTELLARIA L.

634. (3349.) S. CORDIFOLIA Muhl. Parti-colored Skullcap.  
(*S. versicolor* Nutt.)  
Wooded banks along streams; frequent. June 4.
635. (3352.) S. INCANA Muhl. Hoary Skullcap.  
(*S. canescens* Nutt.)  
Damp, open woods; frequent. June 8.
636. (3354.) S. LATERIFLORA L. Mad dog Skullcap.  
Borders of moist thickets; common. June 11.
637. (3355.) S. NERVOSA Pursh.  
Low, moist places in dense woods; scarce.  
Ferrell's. Heckland. May 24.

## 323. BRUNELLA L.

638. (3363.) B. VULGARIS L. Self-heal. Heal-all.  
Dry banks and fence-rows; common. June 5.

## 324. PHYSOSTEGIA Benth.

639. (3367.) P. VIRGINIANA (L.) Benth. False Dragonhead.  
Low, damp places along the old canal; frequent. August 30.

## 325. SYNANDRA Nutt.

640. (3368.) S. HISPIDULA (Michx.) Britton. Large flowered Mint.  
(*S. grandiflora* Nutt.)  
Open, rich woods; scarce.  
McKeen's woods, south of Fair Ground. May 25.  
Our most handsome member of the Labiatae.  
Found as far north as Wabash County, though its range is given in the Barnes & Coulter Flora as "Banks of the Ohio and its tributaries."

## 326. STACHYS L.

641. (3372.) S. ASPERA Michx. Hedge Nettle.  
Moist places along the banks of canal; frequent. July 2.
- 641a. (3372a.) S. ASPERA GLABRA Gray.  
Wet waste places; scarce.  
Five-mile Pond. July 11.

- 642.\* (3373.) *S. CORDATA* Riddell. Heart-leaved Hedge Nettle.  
Borders of damp upland thickets; scarce.  
Ferrell's. Conover's Pond. July 14.

326a. *LEONURUS* L.

643. (3380.) *L. CARDIACA* L. Motherwort.  
Waste places and fence rows; frequent. May 24.

327. *TRICHOSTEMA* L.

644. (3389.) *T. DICHOTOMUM* L. Blue Curls. Bastard Pennyroyal.  
Sandy soil on river banks; scarce. Discovered by Prof. Evermann,  
September 1, 1889.  
The first record for the State.

328. *TEUCRIUM* L.

645. (3392.) *T. CANADENSE* L. American Germander. Wood  
Sage.  
Banks of streams and moist ground in rich soil; frequent. June 24.

*SOLANACEÆ*. Nightshade Family.329. *LYCIUM* L.

646. (3396.) *L. VULGARE* (Ait. f.) Dunal. Matrimony Vine.  
Waste grounds in Terre Haute; scarce. (Evermann.) June 10.

330. *PHYSALIS* L.

- 647.\* (3405.) *P. LANCEOLATA* Michx. Lance-leaved Ground Cherry.  
Frequent along the canal and river banks. May 21.  
648. (3410.) *P. PHILADELPHICA* Lam. Philadelphia Ground Cherry.  
Borders of cultivated fields in loose, rich soil; scarce.  
Near Five-mile Pond. North side of Vandalia Railway, near  
Glen. May 25.  
649.\* (3411.) *P. PUBESCENS* L. Hairy Ground Cherry.  
Low, waste grounds; common. May 31.  
650.\* (3412.) *P. VIRGINIANA* Mill. Virginia Ground Cherry.  
Loose, sandy soil; frequent. May 25.

331. *SOLANUM* L.

- 651.\* (3414.) *S. CAROLINENSE* L. Horse Nettle. Bull Nettle.  
Roadsides and waste places in dry, sandy soil; common. June 15.  
Increasing in numbers each year and bids fair to become one among  
the worst of weeds.

652. (3418.) *S. NIGRUM* L. Common Nightshade.  
Shady, waste grounds; common. July 10.

- 653.\* (3419.) *S. ROSTRATUM* Dunal. Texas Nettle.

Several flowering plants of this species were discovered in full bloom in a low, sandy field south of Conover's Pond, on October 22, 1888. Undoubtedly a railroad migrant. According to Prof. B. D. Halstead (Bot. Gaz., April, 1889), this is one of the thirty-four worst weeds in the United States, and is rapidly spreading eastward from its original home on the plains of Nebraska and Texas.

Recorded before in Indiana only from Tolleston, Lake County.

332. *DATURA* L.

654. (3424.) *D. STRAMONIUM* L. Jimson Weed. Thorn Apple.  
Rich, waste soil; common. June 10.

655. (3425.) *D. TATULA* L. Purple Jimson.  
Waste, sandy soil; common. June 14.

Like the burdock (*Arctium lappa* L.), these two plants delight in the waste grounds about unused barnyards and deserted dwellings, oftentimes growing so thickly in such places that one can scarcely force his way between them.

SCROPHULARIACEÆ. Figwort Family.

333. *VERBASCUM* L.

656. (3430.) *V. BLATTARIA* L. Moth Mullein.  
Roadsides and waste places; scarce.

National road west of Macksville. Durkey's Ferry road, north of Five-mile Pond. May 25.

657. (3432.) *V. THAPSUS* L. Common Mullein.

Old, dry fields, banks and roadsides; common. June 11.

Many plants there are which man in his ignorance calls "homely weeds," ne'er seeing their smaller points of usefulness or beauty. The mullein, with its long spikes of yellow flowers and thick, velvety leaves, is one of these. Its basal leaves which, when it blooms, are withered and dry, the winter before formed a beautiful rosette close to the ground and gave shelter and protection to many an insect, both beneficial and injurious. On one occasion, in January, the writer found snugly ensconced beneath and between the leaves of a single mullein plant, four cutworms, seven chinch bugs and three tarnished plant bugs, besides a number of others less injurious—enough to have produced ten thousand of their kind the next season.

## 334. LINARIA Juss.

658. (3438.) L. LINARIA (L.) Karst. Butter and Eggs. Toad Flax.  
Ramsted.

(*L. vulgaris* Mill.)

Borders of fields and roadsides; frequent. June 1.

## 335. COLLINSIA Nutt.

659. (3442.) C. VERNA Nutt. Collinsia. Innocence.  
Moist, shaded banks and hillsides; scarce.  
Southeast of Hunt's. North Sand Hill. Honey Creek. April 13.

## 336. SCROPHULARIA L.

660. (3444.) S. MARYLANDICA L. Figwort.  
(*S. nodosa marylandica* Gray.)  
Borders of damp thickets, fencerows, etc.; common. June 1 to  
October 15.  
Varies much in height and date of flowering.

## 337. CHELONE L.

661. (3445.) C. GLABRA L. Turtle-head. Snake-head  
Low, wet woods; scarce.  
Northeast of Sand Hill. Conover's Pond. July 16

## 338. PENSTEMON Soland.

- 662.\* (3453.) P. DIGITALIS (Sweet) Nutt.  
(*P. laevigatus digitalis* Gray.)  
Moist, rich soil; frequent.  
Goose Pond. Five-mile Pond. June 7.
663. (3458.) P. HIRSUTUS (L.) Willd.  
(*P. pubescens* Soland.)  
Gravelly banks and borders of prairies; frequent.  
Van. Railway opposite Beach's. Heckland, etc. May 16.

## 339. MIMULUS L.

664. (3462.) M. ALATUS Soland. Winged Monkey-flower.  
Borders of ditches and swamps; scarce.  
Five-mile Pond. August 10.
- 665.\* (3466.) M. RINGENS L. Monkey-flower.  
In similar locations; frequent. July 5.

## 340. GRATIOLA L.

666. (3469.) *G. SPHEROCARPA* Ell. Hedge Hyssop.  
Low, wet places; scarce.  
Marsh southwest of Fair Ground. Goose Pond. April 30.
667. (3470.) *G. VIRGINIANA* L. Hedge Hyssop.  
Borders of ponds and ditches; frequent. May 16.

## 341. CONOBEA Aubl.

- 668.\* (3472.) *C. MULTIFIDA* (Michx.) Benth.  
Sandy places along streams and borders of ponds; scarce.  
Conover's Pond. Low ground near river, southwest of Terre Haute.  
July 20.  
The leaves often whorled.

## 342. ILYSANTHES Raf.

- 669.\* (3480.) *I. GRATIOLOIDES* (L.) Benth. False Pimpernel.  
(*I. riparia* Raf.)  
Mucky margins of ponds and streams; frequent. June 25.

## 343. VERONICA L.

670. (3485.) *V. ARVENSIS* L. Corn Speedwell.  
Cultivated grounds; frequent. April 13.
671. (3490.) *V. PEREGRINA* L. Neckweed. Purslane Speedwell,  
Waste and cultivated grounds; common. April 13.
- 672.\* (3491.) *V. SERPYLLIFOLIA* L. Thyme-leaved Speedwell.  
Roadsides and fencerows; common. April 25.

## 344. LEPTANDRA Nutt.

- 673.\* (3494.) *L. VIRGINICA* (L.) Nutt. Culver's root. Culver's  
Physic.  
(*Veronica virginica* L.)  
Borders of rich, moist woods and prairies; frequent. July 10.

## 345. WULFENIA Jacq.

(*Synthyris* Benth.)

- 674.\* (3495.) *W. HOUGHTONIANA* (Benth.) Greene.  
(*Synthyris houghtoniana* Benth.)  
Dry, sandy hillsides; rare.  
One-half mile southeast of Five-mile Pond.  
Not reported south of Tippecanoe County.

346. AFZELIA J. G. Gmel.

(*Seymeria* Pursh.)

675. (3498.) A. MACROPHYLLA (Nutt.) Kuntze. Mullein Foxglove.

(*Seymeria macrophylla* Nutt.)

Banks of streams and open hillsides; scarce.

Beach's woods. Coal Creek. July 12.

347. DASYSTOMA Raf.

(*Gerardia* L. in part.)

676. (3499.) D. FLAVA (L.) Wood. Downy False Foxglove.

(*Gerardia flava* L.)

Dry, wooded hillsides; scarce.

Coal Creek. Hipple's Coal-mine woods.

677. (3503.) D. VIRGINICA (L.) Britton. Smooth False Foxglove.

(*Gerardia quercifolia* Pursh.)

Noted only in the thick woods southwest of the station at Heckland. September 10.

348. GERARDIA L.

678.\* (3514.) G. TENUIFOLIA Vahl. Slender Gerardia.

Dry hillsides and sandy banks; frequent. September 5.

349. CASTILLEJA Mutis.

679.\* (3519.) C. COCCINEA (L.) Spreng. Scarlet Painted Cup.

Indian Pink.

Virgin prairie soil.

Noted only at Heckland, where it is common. April 28.

350. PEDICULARIS L.

680.\* (3530.) P. CANADENSIS L. Common Lousewort. Wood

Betony.

Dry, wooded hillsides or sandy woods; scarce.

Heckland. Coal Creek. April 25.

681.\* 3535. (P.) LANCEOLATA Michx. Lousewort.

Ditches and low, waste places; scarce.

Van. Railway near Beach's. Heckland.

## OROBANCHACEÆ Broom-rape Family.

351. THALESIA Raf.

(Aphyllon Mitch.)

682. (3557.) T. UNIFLORA (L.) Britton. One-flowered Cancer-root.  
(Aphyllon uniflorum Gray.)

Rare. Taken by U. O. Cox, May 8, 1890, in woods near Seventh Street bridge across Fall Creek.

352. OROBANCHE L.

683. (3558.) O. LUDOVICIANA Nutt. Broom-rape.

(Aphyllon ludovicianum Gray.)

Banks of Wabash River, near brick yards above Terre Haute; frequent locally. Parasitic on the roots of the Great Horse-weed, *Ambrosia trifida* L. Discovered by Professor Evermann, October 2, 1889.

The first record for the State.

353. CONOPHOLIS Wallr.

- 684.\* (3561) C. AMERICANA (L. f.) Wallr. Squaw-root. Cancer-root.

Open oak woods; scarce. May 12.

Southeast of Hunt's. Coal Creek. Cox's woods.

354. EPIPHEGUS Nutt.

685. (3562.) E. VIRGINIANA (L.) Bart. Beech-drops.

Dense beech woods; common. August 20.

## BIGNONIACEÆ. Bignonia Family.

355. TECOMA Juss.

686. (3564.) T. RADICANS (L.) DC. Trumpet-creeper. Trumpet-flower.

Moist, rich or sandy soil, along fence-rows and banks; common.  
June 10.

Queen of all our creeping or trailing shrubs is the trumpet-creeper with its large pinnate leaves and giant, trumpet-like flowers, the latter so attractive to humming-bird and bumble-bee. Midsummer is the time, and the banks of the old canal the place, to see this creeper in all its primitive beauty. There the soil is congenial, and bush and shrub furnish a ready support to which its aerial rootlets freely cling; thus forming many a snug retreat in which the nest of woodland songster is securely hidden.



## 356. CATALPA Scop.

687. (3566.) C. SPECIOSA Warder.

Loose, rich, sandy soil along fence-rows; frequent.

This species grows indigenously in the southern half of the county,  
and in the Wabash valley as far north as Atherton. May 22.

## PEDALIACEÆ. Pedalia Family.

## 357. MARTYNIA L.

688. (3567.) M. LOUISIANA Mill. Unicorn Plant.

(*M. proboscidea* Glox.)

Rich, loose, sandy soil; rare.

Roadsides northwest of Prairieton. (*Scovell.*)

## ACANTHACEÆ. Acanthus Family.

## 358. RUELLIA L.

- 689.\* (3569.) R. CILIOSA Pursh. Ruellia.

Dry, sandy soil along banks and fence-rows; frequent. June 1.

690. (3572.) R. STREPENS L.

Shady places in moist, rich soil; frequent. May 25.

## 359. DIANTHERA L.

691. (3574.) D. AMERICANA L. Water Willow.

In shallow water near ripples and edges of pools; common. June 20.

## PLANTAGINACEÆ. Plantain Family.

## 360. PLANTAGO L.

692. (3577.) P. ARISTATA Michx.

*P. patagonica aristata* Gray.

E. & T. H. Railway and canal banks south of Terre Haute; scarce.  
June 24, 1888.

The first record for the State.

693. (3582.) P. LANCEOLATA L. Rib-grass. Ripple-grass. English Plantain.

Borders of old fields and waste, gravelly places; frequent, especially  
along the railways. May 25.

694. (3583.) P. MAJOR L. Common Plantain. Ribwort.

Door yards and roadsides; common. May 20.

695.\* (3587.) *P. RUGELII* Dec.

Gravelly banks and roadsides; common. July 1.

Leaves larger and more shining than in *P. major*, and with the petioles often purple-tinged. The spikes longer, but less densely flowered.

696. (3589.) *P. VIRGINICA* L. Virginia Plantain. Ribgrass.

Roadsides and canal banks; common. May 8.

## RUBIACEÆ. Madder Family.

361. *HOUSTONIA* L.697. (3593.) *H. CILIOLATA* Torr.

(*H. purpurea ciliolata* Gray.)

Dry sandy hillsides; scarce.

Spring Hill; woods north of station. June 2.

698.\* (3594.) *H. CÆRULEA* L. Bluets. Innocence.

Borders of moist prairies; noted only at Heckland, where it is abundant. May 7.

362. *CEPHALANTHUS* L.699. (3601.) *C. OCCIDENTALIS* L. Button Bush. Elbow Brush.

Borders of ponds and marshes; common. July 3.

363. *MITCHELLA* L.700. (3602.) *M. REPENS* L. Partridge Berry.

High wooded hills, trailing over the ground mosses; frequent.

Grant. Coal Creek. May 7.

364. *GALIUM* L.701. (3606.) *G. APARINE* L. Cleavers. Goose Grass.

Sides of ravines and damp woods; common. April 28.

702. (3610.) *G. CIRCÆZANS* Michx. Wild Liquorice.

Rich open woods; common. May 2.

The old stems in late summer sometimes produce opposite, thickly-leaved branches from the axils of the whorls of the earlier, more remote leaves.

703.\* (3612.) *G. CONCINNUM* T. and G.

Dry open woods and thickets; frequent. June 4.

704. (3623.) *G. TINCTORIUM* L.

(*G. trifidum tinctorium* Gray.)

Shaded fence-rows and dense woods; common. May 22.

705. (3625.) *G. TRIFIDUM* L. Small Bedstraw.  
Thickets and damp, dense woods; common. May 12.
- 706.\* (3626.) *G. TRIFLORUM* Michx. Sweet-scented Bedstraw.  
Fence-rows and borders of open woods; common. May 12.

## CAPRIFOLIACEÆ Honeysuckle Family.

365. *SAMBUCUS* L.

707. (3630.) *S. CANADENSIS* L. Common Elder.  
Fence-rows and borders of cultivated fields; common. May 28.

366. *VIBURNUM* L.

708. (3634.) *V. ACERIFOLIUM* L. Dockmackie. Maple-leaved Viburnum.  
High, wooded hills in dry soil; scarce.  
Coal Creek. Grant. May 12.
709. (3637.) *V. DENTATUM* L. Arrow-wood.  
Damp, dense woods and marshy thickets; scarce.  
Heckland. S. W.  $\frac{1}{4}$  of S. E.  $\frac{1}{4}$  Sec. 6, Pierson Township. June 19.
710. (3639.) *V. LENTAGO* L. Sweet Viburnum. Sheep-berry.  
Open woods, borders of streams, etc.; scarce.  
Borders of marsh east of Beach's woods. Banks of Little Honey Creek in N. E.  $\frac{1}{4}$  Sec. 36, Honey Creek Township. May 25.
711. (3640.) *V. MOLLE* Michx. Smooth-leaved Viburnum.  
Fence-rows and margins of dry, upland prairies; scarce.  
Roadside south of Youngstown in S. E.  $\frac{1}{4}$  Sec. 35, Honey Creek Township. Found only in fruit, October 17, 1896.  
The leaves, larger, more rounded, thicker and more soft downy, than those of *V. dentatum* L. Recorded before in Indiana only from Jefferson County.
712. (3645.) *V. PRUNIFOLIUM* L. Black Haw.  
Fence rows along dry upland fields; wooded slopes; scarce.  
Ferrell's. Woods near Spring Hill. May 27.

367. *TRIOSTEUM* L.

713. (3648.) *T. ANGUSTIFOLIUM* L. Narrow-leaved Horse Gentian.  
Moist woods and thickets; scarce.  
Heckland. June 5.
- 714\*. (3649.) *T. PERFOLIATUM* L. Feverwort. Horse Gentian.  
Clearings and rich open woods; infrequent.  
Heckland. Coal Creek. April 27.

## 368. SYMPHORICARPOS Juss.

715. (3654.) *S. SYMPHORICARPOS* (L.) MacM. Indian Currant.  
Coral Berry.

(*S. vulgaris* Michx.)

Gravelly or dry banks; scarce.

Sides of Van. Railway, one mile west of Glen. I. & St. L. railway  
near crossing of St Mary's road. June 30.

## VALERIANACEÆ. Valerian Family.

## 369. VALERIANA L.

716. (3670.) *V. PAUCIFLORA* Michx. Valerian.  
Ravines and rich wooded slopes in damp soil; scarce.  
Grant. Honey Creek. Woods near Broadhurst's mine. May 10.

## DIPSACEÆ. Teasel Family.

## 370. DIPSACUS L.

717. (3681.) *D. SYLVESTRIS* Huds Wild Teasel.  
Roadside in dry upland soil; scarce.  
Grant. Roadside north of Cloverland, in Nevins Township. July 2.

## CUCURBITACEÆ. Gourd Family.

## 371. MICRAMPELIS Raf.

(*Echinocystis* T. & G.)

718. (3686.) *M. LOBATA* (Michx.) Greene. Wild Cucumber. Wild  
Balsam Apple.

(*Echinocystis lobata* T. & G.)

Rich, moist soil along streams and river bottom ponds; common.  
July 14.

## 372. SICYOS L.

719. (3688.) *S. ANGULATUS* L. One-seeded Star Cucumber.  
Borders of marshes and low places in the river bottoms; frequent.  
June 30.

## CAMPANULACEÆ. Campanula Family.

## 373. CAMPANULA L.

720. (3689.) *C. AMERICANA* L. Tall Bellflower.  
Moist, rich soil and shaded banks; common. June 5.  
Varies much in height and the branching of the stem.

## 374. LEGOUZIA Durand.

*(Specularia Heist.)*

721. (3700.) L. PERFOLIATA (L.) Britton. Venus' Looking glass  
*(Specularia perfoliata A. DC.)*

Dry, barren or sandy soil; frequent. May 21.

## 375. LOBELIA L.

722. (3703.) L. CARDINALIS L. Cardinal Flower.

Low, damp soil; frequent. July 20.

723. (3706.) L. INFLATA L. Indian Tobacco.

Dry, open woods; common. July 12–November 4.

724. (3707) L. LEPTOSTACHYS A. DC.

Dry, sandy soil; scarce. July 1.

Along Van. Railway near Fair Ground.

725. (3715.) L. SYPHILITICA L. Great Blue Lobelia.

Low grounds; common. August 1.

Between this plant and the cardinal flower, members of the same genus, what a contrast in the color of the blossoms; those of the one bluer than the vault of heaven above, of the other redder than blood of the deepest dye, yet both too often unnoticed and unknown by the owner of the soil in which they grow.

## COMPOSITÆ. Compositæ Family.

Especial attention was given to the collecting of the members of this, the highest family of flowering plants, and as a result 128 species and three varieties were found growing without cultivation in the parts of the county visited. This is, as far as known, the largest number of plants of this order found in any county in the State; the lists which have been prepared from the various counties having recorded the number of Compositæ as follows:

County.	Author.	Species.	Varieties.
Jefferson.....	Coulter.....	94	....
Delaware, Randolph, Jay and Wayne..	Phinney.....	100	2
Franklin .....	Meyneke. ....	85	....
Fayette.....	Hessler.....	71	....
Monroe.....	Blatchley.....	86	....
Steuben.....	Bradner.....	89	2
Noble.....	Van Gorder.....	79	2
The State .....	Barnes and Coulter.....	180	....

The Compositæ of Vigo County comprise more than one-seventh of the flowering plants so far found within its bounds. Among the forms collected no less than 51 are weeds,\* while eight of them are included in

\*See definition of "weed." in Introduction to this paper, p 586.

the list of the "Twenty Worst Weeds," which, in the writer's opinion, grow in western Indiana.\*

Except from an æsthetic point of view, not one of the *Compositæ* noted below is of the least benefit to the inhabitants of the county, although a dose of dandelion tonic or boneset tea may occasionally be given by some grandmother or quack doctor for a fancied ailment. But the lover of nature, whose eye is ever on the search for the pleasing and the beautiful, blesses their existence; for the hues of the asters, goldenrods and sun-flowers absent, our autumn scenery would lose much of the charm due to its variety of color.

Realizing the truth of the saying of a prominent American botanist: "That as for the *Asters* and *Solidagoes*, the older the botanist, the less high and mighty does he become concerning them," the specimens of those two genera were sent to Dr. J. M. Coulter for verification, and to him are due my especial thanks for the service thus rendered.

376. *VERNONIA* Schreb.

726. (3721.) *V. FASCICULATA* Michx. Iron-weed.

Open woods and pastures, especially in upland soil; very common.  
August 8.

Specimens with the flowers white are occasionally found.

In the great contest for supremacy, forever going on among all plants as well as among all animals, the rag-weed, fox tail, white top, etc., go down before the creeping, smothering power of the Kentucky blue grass; but this rough, ungainly weed ne'er gives up the struggle, and in many places grows as rankly in the farmer's best lowland pastures as does its cousin, the greater rag-weed or horse-weed, along the margins of his cultivated bottom fields. It is seemingly becoming more abundant each year, and at present is undoubtedly the worst weed with which the stock farmers of Indiana have to contend.

It has been said that all things in nature have their use—that nothing exists but for a purpose. It is the work of science to discover and make known the use of nature's objects; and day by day her secrets are gradually being exposed, thereby advancing man in civilization, by enabling him to better control the ravages of those existing forms which are injurious to his interests. If, however, the iron-weed has a use, other than that shown in the beauty of its flowers, no one has yet discovered it. But there is time; for of the thousands of plant forms which exist we know the use of only a few, as corn and hemp, ginseng and blood root. Let us hope that some valuable medicinal or other property will soon be discovered in the iron-weed and a reason for its existence thereby pointed out to the doubting humanity of the present.

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\*See Introduction to this paper, p. 587.

Meanwhile the naturalist will go on admiring the beauty of its bloom, for however coarse and repulsive the stem and leaves may appear, yet each head, with its 25 or 30 dainty florets so prettily grouped within their protective cups, reveals a striking beauty to the true lover of nature; and when in the glamour of an August morn he stands upon a hillside and views acre upon acre of the broad, purple cymes waving in the valley beneath, all memories of the plant as a pernicious weed are blotted from his mind by the attractiveness of the scene before him.

727. (3725.) *V. NOVEBORACENSIS* (L.) Willd. Ironweed.

Prairies and woodlands of river terrace; common, but less so than the preceding.

Heckland. McKeen's woods, etc. August 21.

377. *ELEPHANTOPUS* L.

728.\* (3728.) *E. CAROLINIANUS* Willd. Elephant's Foot.

Open, usually low woods in sandy soil; scarce.

McKeen's woods south of Fair Ground. Woods south of Vandalia

Railway, opposite Beach's. September 10.

The smaller specimens from the last named locality came near to *E. tomentosus* L., the leaves being crowded at the base, the only truly stem leaf being a small one subtending the lowermost peduncle.

378. *EUPATORIUM* L.

729. (3732.) *E. AGERATOIDES* L. f. White Snake-root.

Open woods, roadsides, etc.; common. July 21.

730.\* (3738.) *E. CELESTINUM* L. Mist-flower.

Rich, damp soil; scarce.

Bottom lands northwest of Conover's Pond. Coal Creek bottoms. September 8.

731. (3744.) *E. PERFOLIATUM* L. Thoroughwort. Boneset.

Low, damp places; common. July 17.

732. (3747.) *E. PURPUREUM* L. Joe Pye Weed. Trumpet Weed.

Purple Boneset. Queen of the Meadow.

Low, damp, open woods and borders of marshes; common. July 20.

733.\* (3752.) *E. SEROTINUM* Michx.

Gravelly banks and borders of prairies; frequent.

Heckland. Vandalia Railway. September 5.

379. *KUHNIA* L.

734. (3758.) *K. EUPATORIODES* L.

Sandy banks and prairies; frequent. August 11.

## 380. LACINARIA Hill.

*(Liatris Schreb.)*

## 735.\* (3765.) L. PYCNOSTACHYA (Michx.) Kuntze.

*(Liatris pycnostachya Michx.)*

Rare. Several specimens were taken at Heckland, September 5, 1889.

## 736.\* (3766) L. SCARIOSA (L.) Hill. Gay Feather. Button Snake-root.

*(Liatris scariosa Willd.)*

Borders of prairies; scarce.

Heckland. T. H. & L. R. R. above Otter Creek Junction. August 17.

The heads often one and one-half inches in diameter.

## 737. (3769.) L. SPICATA (L.) Kuntze.

*(Liatris spicata Willd.)*

Borders of damp prairies; scarce.

Heckland. August 17.

## 381. CHRYSOPSIS Nutt.

## 738.\* (3788.) C. VILLOSA (Pursh) Nutt. Golden Aster.

Sandy banks and borders of prairies; scarce.

Along the canal, between Ft. Harrison and Five-Mile Pond. June 24.

The first record for the State; its range being given as "Wisconsin to Kentucky and westward."

## 382. SOLIDAGO L. The Golden-rods.

## 739.\* (3808.) S. CÆSIA L.

Borders of damp woods and sides of ravines; common. September 5.

## 740.\* (3810.) S. CANADENSIS L.

Fence-rows, roadsides, etc.; common. August 5 to November 15.

## 740a. (3813.) S. CANADENSIS SCABRIUSCULA Porter.

*(S. canadensis scabra T. and G.)*

With the preceding; scarce.

Heckland; Van. Railway.

## 741.\* (3819.) S. FLEXICAULIS L.

*(S. latifolia L.)*

Damp, wooded slopes and ravines; frequent. September 1.

## 742. (3833.) S. NEMORALIS Ait.

Dry prairies; frequent. August 18.



743. (3834.) *S. ODORA* Ait. Sweet Golden-rod.  
 Borders of prairies; rare.  
 Heckland. September 15.  
 Recorded before in Indiana only from Gibson County.
- 744.\* (3843.) *S. RIGIDA* L.  
 Margins of prairies; scarce.  
 Heckland. T. H. & L. R. R. August 20.  
 A most handsome species; very variable in height and size of corymb of flowers.
- 745.\* (3844.) *S. RIGIDIUSCULA* (T. & G.) Porter.  
*(S. speciosa angustata T. & G.)*  
 Clearings and borders of prairie at Heckland; not noted elsewhere.  
 September 5.  
 The first record for the State.
746. (3845.) *S. RUGOSA* Mill.  
 Borders of open fields and thickets; common. August 8.  
 Very variable; the leaves of shaded swamp forms being thin and much less rugose than those in open dry places. Well developed specimens of the latter are very handsome, having the flowering branches several and very long recurved spreading.
- 747.\* (3848.) *S. SEROTINA* Ait.  
 Rich bottom woods; scarce.  
 Woods on bank of Wabash River below Ft. Harrison. September 8.
- 748\*. (3851.) *S. SPECIOSA* Nutt.  
 Borders of prairies; frequent at Heckland. August 25, 1889.  
 The first record for the State.
749. (3857.) *S. ULMIFOLIA* Muhl.  
 Damp wooded hillsides; frequent.  
 Coal Creek. Grant. September 5.
383. *EUTHAMIA* Nutt.  
*(Solidago L. in part.)*
750. (3864.) *E. CAROLINIANA* (L.) Greene.  
*(S. tenuifolia Pursh.)*  
 Shaded banks, usually in sandy soil; frequent. August 21.
- 751.\* (3865.) *E. GRAMINIFOLIA* (L.) Nutt.  
*(S. lanceolata L.)*  
 Damp, low soil; common. August 10.

## 384. BOLTONIA L'Her.

752. (3874.) B. ASTEROIDES (L.) L'Her.  
Low, open pastures and prairies; scarce.  
McKeen's Woods. Heckland. September 14.

## 385. SERICOCARPUS Nees.

753. (3880.) S. LINIFOLIUS (L.) B. S. P.  
(*S. solidagineus* Nees.)  
Borders of prairies; scarce.  
Heckland. August 18.  
Before recorded in Indiana only from Floyd County.

## 386. ASTER L.

754. (3886.) A. AZUREUS Lindl. Azure Aster.  
Borders of prairies; rare.  
Heckland. August 25.
755. (3889.) A. CORDIFOLIUS L. Heart-leaved Aster.  
Dry, wooded hillsides; common. September 11.  
In flower later than most others of the genus.
- 756.\* (3892.) A. DRUMMONDII Lindl. Drummond's Aster.  
Low, open pastures and prairies; frequent.  
Heckland. Sides of Van. Railway, etc.  
The first record for the State, its range being given by Gray as  
"Illinois to Minnesota and Kansas."
757. (3893.) A. DUMOSUS L.  
Dry open woods and fence-rows; frequent. September 8.
- 758.\* (3897.) A. ERICOIDES L. Heath-like Aster.  
Fence-rows in open, dry soil; scarce.  
Roadside near Spring Hill. Coal Creek.
- 758a.\* (3898.) A. ERICOIDES PILOSUS (Willd.) Porter.  
(*A. ericoides villosus* T. and G.)  
In similar localities, but more frequent.
- 759.\* (3911.) A. LEVIS L. Smooth Aster.  
Dry prairie soil; scarce.  
Heckland. Hillside at Five-Mile Pond. September 5.  
A handsome but variable species.
760. (3913.) A. LATERIFLORUS (L.) Britton. Diffuse Aster.  
(*A. diffusus* Ait.)  
Open waste places; common, especially in upland soil.  
A much branched, small-flowered and variable species.

761. (3917.) *A. LINARIIFOLIUS* L. Double Bristled Aster.  
Dry sandy hillsides; scarce.  
Hillside at Five-Mile Pond. September 10.  
Readily known by the shortness of the stems, which grow in clumps, and by the rigid, linear leaves. Heads large and showy.
762. (3926.) *A. MULTIFLORUS* Ait. Many-flowered Aster.  
Sandy or barren soil; frequent.  
Banks and bed of the old canal. September 15.
- 763.\* (3929.) *A. NOVÆ-ANGLIÆ* L. New England Aster.  
Moist open ground; common. September 10.  
One of our most striking species; its large violet-purple heads rendering it easily recognized after a first acquaintance.
- 764.\* (3937.) *A. PANICULATUS* Lam.  
Open, damp places; common. September 10.
- 765.\* (3938.) *A. PATENS* Ait.  
Dry prairies and sandy hillsides; frequent locally.  
Hillside at Five-Mile Pond. Heckland. August 20.
- 766.\* (3945.) *A. PUNICEUS* L.  
Moist, open woods and borders of marshes; common.  
Our tallest and roughest-stemmed species. September 15.
767. (3951.) *A. SAGITTÆFOLIUS* Wedem. Arrow leaved Aster.  
Borders of fields and open woods; common.
- 768.\* (3952.) *A. SALICIFOLIUS* Lam. Willow-like Aster.  
Low, moist soil; common.  
This and *A. paniculatus* Lam. cover large areas in the annually overflowed bottoms along the Wabash River.
- 769.\* (3955.) *A. SHORTII* Lindl.  
Moist, shaded banks; scarce.  
Ravines east of Highland Lawn Cemetery. September 25.
770. (3962.) *A. TRADESCANTI* L.  
Low, open grounds; frequent. September 5.
771. (3967.) *A. UNDULATUS* L. Wavy Aster.  
Dry, open woods and thickets; frequent.  
Coal Creek. Hipple's Woods, etc. September 8.

387. *ERIGERON* L.

- 772.\* (3973.) *E. ANNUUS* (L.) Pers. Daisy Fleabane. White-top.  
Waste grounds and clover and timothy meadows; abundant.  
May 25.

773. (3977.) *E. CANADENSIS* L. Horse-weed. Butter-weed.  
Cultivated fields and open, waste places; abundant. July 3.
774. (3983.) *E. PHILADELPHICUS* L. Common Fleabane.  
Low, grassy places, banks, etc.; frequent. April 12, 1888.  
April 20, 1889.
- 775.\* (3984.) *E. PULCHELLUS* Michx. Robin's Plantain.  
(*E. bellidifolius* Muhl.)  
Damp woodlands and borders of prairies; scarce.  
Heckland. Beach's woods. May 13.
776. (3986.) *E. RAMOSUS* (Walt.) B. S. P. Daisy Fleabane.  
(*E. strigosus* Muhl.)  
Meadows and waste open grounds; common. May 25.  
This species and *E. annuus* Pers. are the most pernicious weeds with which the growers of timothy or clover have to contend. Both are commonly known as "white-top," and are not separated by the average farmer. *Ramosus* may be readily distinguished, however, by its smaller size; its narrower, nearly entire leaves, and smaller, longer rayed flowers.

## 388. ANTENNARIA Gaertn.

777. (4004.) *A. PLANTAGINIFOLIA* (L.) Richards. Plantain-leaved  
Everlasting. Cat's-paw. Mouse-ear.  
Dry, open woods and banks; common. April 4.  
The earliest flowering of the Compositæ; quickly followed, however, by *Erigeron philadelphicus* L. and *Senecio aureus* L.

## 389. GNAPHALIUM L.

778. (4008.) *G. OBTUSIFOLIUM* L. Common Everlasting.  
(*G. polycepalum* Michx.)  
Old fields and open woods; common. August 20.
- 779.\* (4010.) *G. PURPUREUM* L. Purplish Cudweed.  
Dry, open woods; frequent.  
Heckland. Coal Creek. June 1.

In Gray's Synoptical Flora the range of this species is given as: "Chiefly of sea coast or near it; coast of Massachusetts to Texas and interior of Arkansas." In the Catalogue of Indiana Plants it is mentioned without comment, which signifies that it is found throughout the State.

## 390. INULA L.

780. (4014.) *I. HELENIUM* L. Elecampane.  
Old fields and banks of roadsides in dry upland soil; scarce.  
North of I. & St. L. bridge across St. Mary's road. Grant.

## 391. POLYMNIA L.

781. (4016.) *P. CANADENSIS* L. Leaf cup.

Shaded ravines; frequent.

Coal Creek. Grant. June 16.

The rays are usually three-lobed, and whitish, and the plant very strongly and disagreeably scented.

## 392. SILPHIUM L.

782. (4023.) *S. PERFOLIATUM* L. Cup-plant.

Borders of streams and ditches; scarce.

Side of railway near Spring Hill. Woods south of Vandalia Railway, opposite Beach's. July 27.

783. (4024.) *S. TEREBINTHACEUM* Jacq. Prairie Dock. Rosin Plant.

Prairies and roadsides; scarce.

Heckland. Roadsides below Youngstown. August 1.

## 393. PARTHENIUM L.

784. (4032.) *P. INTEGRIFOLIUM* L. Parthenium.

Dry prairie or sandy soil; scarce.

Heckland. T. H. & L. Railway above Otter Creek Junction.  
June 8.

Grows in dense tufts.

## 394. AMBROSIA L.

785. (4039.) *A. ARTEMISIAEFOLIA* L. Ragweed. Roman Wormwood.

Hogweed. Bitterweed.

Waste places, cultivated grounds, etc.; abundant.

Probably the worst weed with which the farmers of Vigo County have to deal. Excessively abundant in 1896, due, doubtless, to the many rains of the season.

A smaller form, fifteen inches high, very viscid, with all the leaves cut-cleft or only once pinnatifid, grows on the hillside near Five-Mile Pond. It is in flower until October 15, and is distinguished at a glance from the ordinary form.

786. (4040.) *A. BIDENTATA* Michx. Two-toothed Ragweed.

Roadsides and borders of cultivated fields between Glen and Staunton, Clay County; common locally. First noted August 23, 1895.

The first record for the State.

787. (4042.) *A. TRIFIDA* L. Great Ragweed. Horseweed.

Alluvial soil along streams; abundant. August 5.

One of the tallest of our annual plants, often reaching thirteen, and occasionally fourteen, feet in height. Horses are very fond of it, and in August and September large quantities are gathered for their use by the poorer classes who can not afford to buy hay.

- 787 a. (4043.) *A. TRIFIDA INTEGRIFOLIA* (Muhl.) T. & G.

With the species, but scarce.

395. *XANTHIUM* L.

788. (4047.) *X. CANADENSE* Mill. Cockle-bur.

Alluvial or overflowed bottom lands; abundant. August 10.

The form known as var. *echinatum* Gray, with the prickles of the bur long, dense and very hispid, occurs sparingly along the canal and at Heckland.

789. (4049.) *X. STRUMARIUM* L. Cockle-bur. Clot-bur.

Roadsides, barnyards and upland cultivated grounds; frequent. August 10.

396. *HELIOPSIS* Pers.

- 790.\* (4051.) *H. HELIANTHOIDES* (L.) B. S. P. Smooth Ox-eye. False Sunflower.

(*H. laevis* Pers.)

Thickets and fence rows in dry soil; frequent. July 12.

- 791.\* (4052.) *H. SCABRA* Dunal. Rough Ox-eye.

In similar localities with the preceding, but more common. July 15.

397. *ECLIPTA* L.

792. (4053.) *E. ALBA* (L.) Hassk.

Borders of ponds and low wet places; frequent. July 16.

The short peduncled form is, as yet, the only one found in the county.

398. *RUDBECKIA* L.

793. (4057.) *R. HIRTA* L. Yellow Daisy. Black-eyed Susan. Meadow Cone-flower.

Dry meadows; frequent. June 10 to November.

Appears to be both an annual and a biennial; in the former case lower and more simple stemmed and blooming in late autumn; as a biennial, stouter, more branched and blossoming early.

794. (4058.) *R. LACINIATA* L.

Damp woods and banks of railways; frequent. July 25.

795. (4063.) *R. TRILOBA* L. Small flowered Cone-flower. Darkey-head.

Banks and borders of ditches and damp meadows; common. July 25.  
One of the most showy of our common Compositæ.

399. *LEPACHYS* Raf.

- 796.\* (4065.) *L. PINNATA* (Vent.) T. & G.

Dry banks and prairies; scarce. June 29.  
Leaves very rough on both sides.

400. *BRAUNERIA* Neck.

(*Echinacea* Moench.)

797. (4068.) *B. PURPUREA* (L.) Britton. Purple Coneflower.

(*Echinacea purpurea* Moench.)

Prairies and dry sandy hillsides; scarce.  
Heckland. Hillside southeast from Five-Mile Pond. July 20.

401. *HELIANTHUS* L.

798. (4072.) *H. ANNUUS* L. Common Sunflower.

Low waste grounds, escaped from cultivation; scarce.  
A number grow each year along the borders of the old canal.

799. (4074.) *H. DECAPETALUS* L.

Low thickets and banks of streams; common. August 10.

800. (4075.) *H. DIVARICATUS* L. Divaricate-leaved Sunflower.

Prairies and borders of sandy cultivated fields; frequent.

Heckland. Banks of canal, etc. July 20.

A characteristic and easily known species; the leaves rarely in whorls of three.

801. (4077.) *H. GIGANTEUS* L.

Borders of marshes and low wet places; frequent. August 20.

802. (4078.) *H. GROSSE-SERRATUS* Martens.

Dry prairies and fence-rows; frequent. August 25.

A specimen with leaves nearly entire, and measuring 12 feet 1 inch in height, was taken in the border of damp woods, in S. E.  $\frac{1}{4}$ , Sec. 6, Pierson Township.

803. (4079.) *H. HIRSUTUS* Raf.

Borders of upland woods; scarce.  
Sand Hill. Ferrell's. July 25.

804. (4080.) *H. LÆTIFLORUS* Pers.

Prairies and fence-rows; frequent. August 15.

805.\* (4083.) *H. MOLLIS* Lam.

Dry, sandy or prairie soil; frequent.

Five-Mile Pond. Heckland. August 12.

Readily distinguished by the soft, whitish pubescence of the opposite, sessile, somewhat divaricate leaves.

806. (4085.) *H. OCCIDENTALIS* Riddell.

Dry prairies; rare.

Heckland. August 4.

807. (4087.) *H. MICROCEPHALUS* T. & G. Small-flowered Sunflower.

(*H. parviflorus* Bernh.)

Dry, upland woods; frequent.

Coal Creek. Hipple's Coal-mine woods, etc. August 20.

808. (4095.) *H. TRACHELIIFOLIUS* Mill.

Fence-rows and along railways; frequent. July 25.

809. (4096.) *H. TUBEROSUS* L. Jerusalem Artichoke.

Alluvial soil along streams; frequent. August 25.

A coarse, large-leaved species, blooming a week or two later than its allies.

402. *VERBESINA* L.

(*Actinomeris* Nutt. in part.)

810. (4099.) *V. ALTERNIFOLIA* (L.) Britton.

(*Actinomeris squarrosa* Nutt.)

Bottoms of ravines and low, rich soil; frequent. August 18.

811. (4101.) *V. HELIANTHOIDES* Michx. Crownbeard.

Borders of damp prairies; scarce.

Near Goose Pond. Heckland, one-half mile west of station. June 22.

Heads often several, on long peduncles from the axils of the leaves.

403. *COREOPSIS* L.812.\* (4109.) *C. LANCEOLATA* L. Tickseed.

Dry, sandy knolls; scarce.

Hillside near Five-Mile Pond. Durkey's Ferry. May 25.

813. (4116.) *C. TRIPTERIS* L. Tall Coreopsis.

Borders of prairies and along railways in dry soil; scarce.

Heckland. T. H. & L. Railway above Otter Creek Junction.

A depauperate form less than three feet high occurs in the damp woods at Heckland.



## 404. BIDENS L.

814. (4124.) *B. BIPINNATA* L. Spanish Needles.  
Thickets and waste places; frequent. July 25.
815. (4125.) *B. CERNUA* L. Smaller Bur-Marigold.  
Ditches and mucky margins of ponds; common. August 1.
- 816.\* (4126.) *B. CONNATA* Muhl. Swamp Beggar-ticks.  
Border of swamps and marshes; common. July 25.
817. (4129.) *B. FRONDOSA* L. Common Beggar-ticks.  
Low, waste places; abundant. July 5.
- 818.\* (4130.) *B. LEVIS* (L.) B. S. P. Larger Bur-Marigold.  
(*B. chrysanthemoides* Michx.)  
Low, wet or alluvial soil; frequent. August 10.

## 405. HYMENOPAPPUS L'Her.

- 819.\* (4139.) *H. CAROLINIENSIS* (Lam.) Porter.  
(*H. scaberrimus* L'Her.)  
Dry, sandy hillsides; rare.  
Taken only on the hillside northeast of Seventh Street bridge  
across Lost Creek. May 31, 1890.  
The first record for the State; its range being given in the Manual as  
"Illinois and southward."

## 406. DYSODIA Cav.

820. (4149.) *D. PAPPOSA* (Vent.) A. S. Hitchc. Fetid Marigold.  
False Dog-fennel.  
(*D. chrysanthemoides* Lag.)  
Roadsides and along railways; common. August 4.  
A railroad migrant from the far West; seemingly displacing in many  
localities the common dog-fennel, *Anthemis cotula* L. The odor of the  
latter was bad enough, but that of the fetid marigold is infinitely more  
disgusting.

## 407. HELENIUM L.

- 821.\* (4151.) *H. AUTUMNALE* L. Sneeze weed.  
Low, moist places, especially along streams; common. July 27.
822. (4153.) *H. NUDIFLORUM* Nutt.  
Low, damp soil; scarce.  
McKeen's woods. Vandalia Railway, near Glen. June 20.

## 408. ACHILLEA L.

823. (4163.) *A. MILLEFOLIUM* L. Common Yarrow. Milfoil.  
Old meadows and roadsides; frequent. May 27.

## 409. ANTHEMIS L.

824. (4166.) *A. COTULA* DC. May-weed. Dog-fennel.  
Roadsides and waste upland grounds; common. June 20 to November.

## 410. CHRYSANTHEMUM L.

825. (4171.) *C. LEUCANTHEMUM* L. Ox-eye Daisy. White-weed. Marguerite.  
Old meadows and closely cropped upland pastures; scarce.  
Pasture by roadside one-half mile west of Ferrell's. Fields west of Macksville. June 13.

## 411. TANACETUM L.

826. (4178.) *T. VULGARE* L. Common Tansy.  
Roadsides and along railways, escaped; scarce.  
T. H. & E. Railway, one-half mile below blast furnace, north of St. Mary's.

## 412. ARTEMISIA L.

- 827.\* (4182.) *A. BIENNIS* Willd. Biennial Wormwood.  
Sandy banks and waste places; common. July 17.  
A homely, coarse weed with a rank, disagreeable odor.

## 413. ERECHTHITES Raf.

828. (4209.) *E. HIERACIFOLIA* (L.) Raf. Fire-weed.  
Borders of rich, open woods and clearings where the soil has recently been burned over; common. July 15.

## 414. SENECIO L.

829. (4210.) *S. AUREUS* L. Golden Ragwort. Squaw-weed.  
Ditches and borders of swamps; scarce.  
Southeast of Hunt's Rosary. Marsh near Beach's woods. Heckland. April 17.
830. (4219.) *S. LOBATUS* Pers. Butter-weed.  
Margins of ponds; scarce.  
Conover's Pond. Van. Railway, near Beach's woods. May 21.  
The first record for the State. Note range as given in Manual.
831. (4220.) *S. OBOVATUS* Muhl.  
(*S. aureus obovatus* T. & G.)  
Dry hillsides and railway banks; frequent. April 17.

## 415. CACALIA L.

832. (4231.) *C. ATRIPLICIFOLIUS* L. Pale Indian Plantain.  
Dry banks and wooded hillsides; frequent.  
Heckland. T. H. & L. Railway. Coal Creek.

833. (4232.) *C. RENIFORMIS* Muhl. Great Indian Plantain.  
Rich, damp soil; rare.  
Along a small stream one-fourth of a mile south of the top of Coal  
Creek Hill. June 25.

416. *ARCTIUM* L.

834. (4235.) *A. LAPP* L. Common Burdock.  
Dooryards of deserted dwellings and waste places; common.  
July 10.

417. *CARDUUS* L.

(*Cnicus* Tourn.)

- 835.\* (4238.) *C. ALTISSIMUS* L. Tall Thistle.  
(*Cnicus altissimus* Willd.)  
Fence-rows and borders of woods; frequent. June 20.

- 836.\* (4241.) *C. DISCOLOR* (Muhl.) Nutt.  
(*Cnicus altissimus discolor* Gray.)

With the preceding and more frequent; June 2.

The wool on under side of the pinnatifid leaves is much thicker and the scales of involucre more glandular than in *C. altissimus*. Insects are frequently entrapped by the exudation of the glands. (*Vide* Canadian Entomologist, XXIV, 1892, 310.)

837. (4243.) *C. LANCEOLATUS* L. Common Thistle.  
(*Cnicus lanceolatus* Willd.)  
Pastures and roadsides; abundant. July 5.

838. (4244.) *C. MUTICUS* (Michx.) Pers. Swamp Thistle.  
(*Cnicus muticus* Pursh.)  
Borders of prairie marshes and ditches; scarce.  
Heckland.

418. *ADOPOGON* Neck.

(*Krigia* Schreb.)

839. (4268.) *A. VIRGINICUM* (L.) Kuntze. Cynthia.  
(*Krigia amplexicaulus* Nutt.)  
Borders of woodlands in rich, rather dry soil; frequent. May 28.

419. *HIERACIUM* L.

840. (4285.) *H. GRONOVII* L. Hairy Hawkweed.  
Sandy hillsides and open woods; scarce.  
Beach's. Five-Mile Pond. August 20.

841. (4286.) *H. LONGIPILUM* Torr. Long-bearded Hawkweed.  
Open sandy woods and dry hills; scarce.  
Coal Creek. Beach's. August 20.

- 842.\* (4293.) *H. SCABRUM* Michx. Rough Hawkweed.  
Dry wooded hillsides; frequent. August 10.

420. *TARAXACUM* Hall.

843. (4303.) *T. TARAXACUM* (L.) Karst. Common Dandelion.  
Priest's Crown.

(*T. officinale* Weber.)

Pastures, yards and roadsides; abundant. March 28 to November.

421. *LACTUCA* L.

844. (4308.) *L. CANADENSIS* L. Wild Lettuce. Trumpet Milk-weed.  
Borders of thickets and roadsides; frequent. July 18.

845. (4310.) *L. HIRSUTA* Muhl. Hairy Wild Lettuce.  
Borders of prairies and dry, sandy places; scarce.  
Heckland. Banks of canal, etc. September 5.

846. (4313.) *L. SAGITTAEFOLIA* Ell. Entire-leaved Wild Lettuce.  
(*L. integrifolia* Bigel.)

Fence-rows of cultivated fields and roadsides; common. August 4.

- 847.\* (4314.) *L. SCARIOLA* L. Prickly Lettuce.  
Waste places along railways, roadsides and streets; common.  
June 20.

For general accounts of the plant, notes of its first appearance in Indiana, etc., *Vide* "Purdue Agr. Exp. Stat. Bull.," No. 52, 1894, and "Indiana Farmer," July 27, 1895.

848. (4315.) *L. SPICATA* (Lam.) A. S. Hitchc. Tall False Lettuce.  
(*L. leucophæa* Gray.)

Borders of upland thickets in moist, rich soil; frequent.

One specimen measuring 14 feet 4 inches in height was the tallest, upright, herbaceous plant recorded from the county.

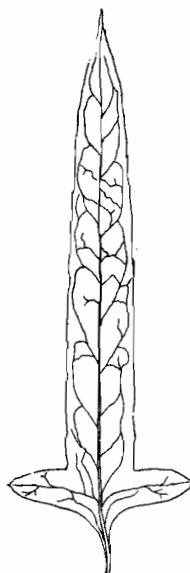
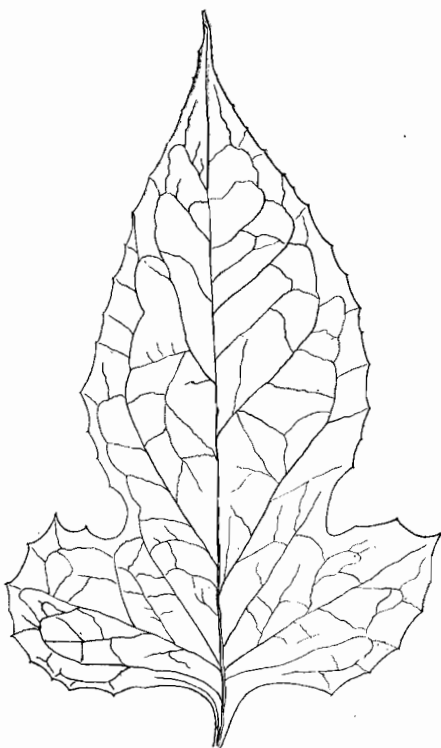
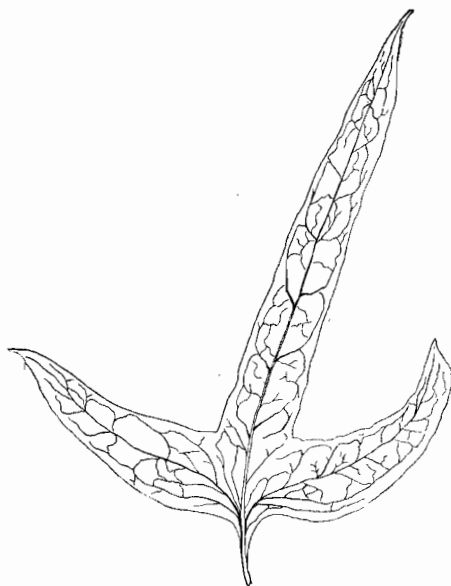
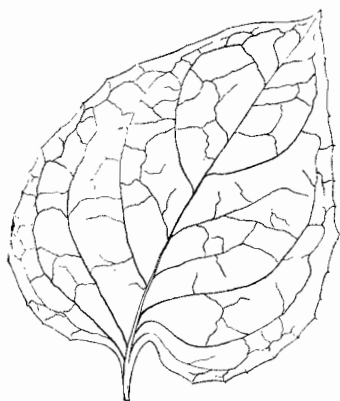
849. (4317.) *L. VILLOSA* Jacq. False Wild Lettuce.  
(*L. acuminata* Gray.)

Fence rows and borders of thickets; frequent. September 5.

422. *PRENANTHES* L.

850. (4318.) *P. ALBA* L. White Lettuce. Rattlesnake Root.  
Open woods and waste, sandy soil; frequent. August 5.

851. (4319.) *P. ALTISSIMA* L. Tall White Lettuce.  
Borders of woods in rich moist soil; common. August 20.  
The leaves more variable than those of any other flowering plant.



EXAMPLES OF VARIATION IN THE FORM OF THE LEAVES OF WHITE LETTUCE,  
*Prenanthes altissima* L.

## 423. SONCHUS L.

852. (4329.) S. ASPER (L) All. Spiny-leaved Sow Thistle.  
Low waste grounds in the city and along railways; frequent.  
June 25.
853. (4330) S. OLERACEUS L. Common Sow Thistle.  
Roadsides and waste places in the city; scarce. May 10.

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\*The names of families are in small capitals. The generic names in italics are synonyms, as used in Gray's Manual.

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